

## PERSONAL COLUMN

A few weeks ago, the students and staff in my English department at Manchester University organized a sponsored reading of Milton's *Paradise Lost*. The event lasted just over 10 hours, and brought in a few hundred pounds for the Samaritans.

I hope the idea of sponsored readings of long poems may spread. May I recommend that a sixth-form group might try Wordsworth's *Prelude*? From a timed reading of 100 lines, it is not difficult to work out reasonably precisely how long the event would take. A reading in a shopping precinct should attract some attention. It would make a change from sponsored walks.

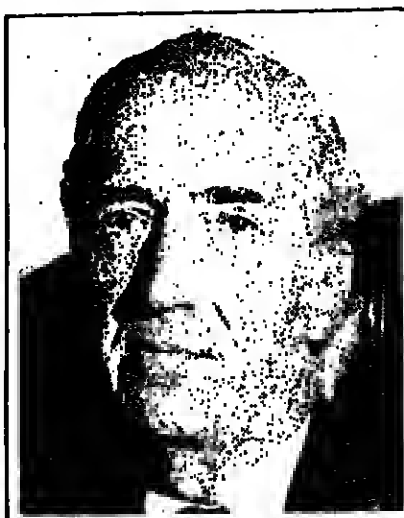
In his epic poem, Milton made an extraordinary attempt to justify the ways of God to man, an endeavour against which his own instincts revolted. Adam's sad decision to accompany Eve in her sin inspired one of Milton's most moving and intimate passages: *How can I live without thee, how forgoe Thy sweet converse and love so dearly joined,*

*To live again in these wild woods forlorn?* When in my sixth-form I first read these lines, I found such musical language overwhelming. Two days after the sponsored reading, my wife and I attended a Hallé concert with Stanislaw Skrowaczewski conducting Mahler's 9th Symphony. This is one of the amazing last works which Mahler composed after he had learned of his incurable heart condition, and which he was destined never to hear performed.

During his last months, he sat in his hotel room overlooking Central Park in New York as if in a trance for hours on end, staring at the vibrant life below. "Wherever I am," he said, "the longing for this blue sky, this magnificent sun and this pulsating activity goes with me." In spite of its desolating anguish, the symphony conveys a courageous affirmation of Mahler's



Julie Walters as Rita done in by *Macbeth*



BRIAN COX

## Common culture

**'To believe that great art should be available to all children is not elitist'**

love of life. Like *Paradise Lost*, the music stands as a great humanist statement.

And so I feel only rage and contempt for anyone who condemns these aesthetic experiences as "elitist". This is a word continually misused. Not to enjoy Milton or Mahler is a form of deprivation. That kind of remark can sound superior, but I acknowledge that I am deprived because I cannot read Homer or Goethe in the original or because I know so little about the history of music or the greatness of Buddhist art. We are all educationally-deprived because we can never know enough about the incredible variety of human achievements in the arts.

As Kenneth Baker or Giles Radice or someone else takes over as Secretary of State for Education, there is a real danger that forces on both right and left may damage the vitality of our cultural traditions. On the right we have the new philistinism. In early May, the right-wing Adam Smith Institute called for an end to cash aid for the arts, and accused the arts lobby of "an arrogant belief" that those involved know better than the man-in-the-street what kind of art he ought to attend and support. The Adam Smith group want realistic market forces to impose realistic changes.

Such right-wingers find strange bedfellows among left-wing egalitarians. These groups disdain high culture because they say it appeals only to a minority. At GCSE discussions, such teachers insist that the syllabus must reflect the tastes of the majority of the children. To believe that great art should be available to all

children is not elitist. It is elitist, of course, to care only for the most gifted children, and indeed we must develop imaginative and flexible courses for children of every aptitude. But it is condescending and truly arrogant to believe that children of low academic ability cannot respond to the arts. Young people of all kinds and backgrounds have been thrilled by the Proms or by a Stratford production of Shakespeare.

A friend of mine who trains in the gym at the Manchester YMCA was talking in the changing rooms about Ben Kingsley's wonderful performance in the title role in Marlowe's *Dr Faustus*. A working-class friend who had never been to the Royal Exchange theatre was persuaded to see the play. Afterwards he was overheard giving his reactions: "You should go to the f—ing Royal Exchange. I saw f—ing Faustus. It was f—ing marvellous. You should see the f—ing Seven Deadly Sins."

In Willy Russell's *Educating Rita*, Rita's response in *Macbeth* is just like that of the young man at the YMCA. She tells Frank, her tutor: "But listen, it wasn't borin', it was bleedin' great, honest, ogh, it done me in, it was fantastic. I'm gonna do an essay on it." Would that some sixth-formers or undergraduates felt the same motivation to write essays. When Rita calls Lady Macbeth "a cow", it may not be examination language but it shows what real responses are possible if only we give students opportunities to watch live theatre. It is absurd to deny that genius exists, and that in Shakespeare or Milton or Mahler we

encounter human beings with abilities far above the ordinary. C. S. Lewis once wrote: "A world in which I was really (and not merely by a useful legal fiction) 'as good as everyone else, in which I never looked up to anyone wiser or cleverer or braver or more learned than I, would be insufferable.'"

In many ways teachers themselves form an élite. They must be experts in their subjects and in child development. To respond to great art helps us to grow in tolerance towards different cultures and ideologies. Teachers must realize that they are inevitably a moral élite. The obvious example is in multicultural education. If we believe that in schools we have a duty to promote tolerance towards all races and creeds, then the obvious corollary is that the teacher must practise such tolerance in his or her own life. Racism is to be seen everywhere in our society. The teacher must combat this in the classroom, must represent the moral standards of the enlightened.

Fear of authority or excellence makes it so much easier for the utilitarians to insist that the main purpose of schools is vocational training. I agree with Michael Pipes, president of the National Association of Head Teachers, who fortnight ago attacked moves to make the state education system "merely a training process", and so "to deny pupils in the state system the full benefit of a genuinely liberating personal educational experience". If we believe these words, then teachers must themselves have enjoyed such educational experiences. If teachers are not an élite, why pay them wages above those appropriate for a child minder?

### NEXT WEEK

**Education priorities**  
Barry Huggill looks at the problems to be tackled by the incoming government

**Inspecting the inspectors**  
Peter Gordon and Denis Lawton assess the dangers facing HMI

**Self Service**  
The community that refused to allow school lunches to be abolished

**Druidic lore**  
Robin Buss on the language of media studies

**Extra: Computers in Education**

### NOTICEBOARD

#### PEOPLE...

Mr Joan Greenfield, general adviser for Havering, to be chief adviser, Havering, in succession to Dr Graham Wilson Park, who has joined HMI.  
Mr Colin Reid, head of St Christopher School, Letchworth, to be chairman of the Boarding Schools Association, in succession to Mr Eddy Doublie, principal education officer for Litchfield.  
Mr Stephen Howard, head of history at Whitgift School, Croydon, to be head of Colston's School, Bristol, in succession to Mr Graham Beale, who becomes director of the Independent Schools Careers Organization.

#### CONFERENCES

June 25 **Opportunities for home economics** and careers will be presented by the National Association of Home Economics and the Institute of Home Economics at the University of Manchester. Fee £12 (incl. materials). Details from NATH, Manchester Place, London WC1N 3SL.

and giving professionals a greater say in policy-making, conference to plan strategy at Freeman Hall, Leamington Spa, Warwickshire CV32 9NB. Details from John Fletcher at Freeman Hall.

June 27 **Obesity and learning difficulties** organized by the National Association of Teacher Therapists and Teachers in Multispeciality Settings at Isledon teachers' centre, Blackstock Road, London N4, with Peter Loader and Mita Beaumont. Details from Gill Eastaugh, Telephone 01-979 6542 (evenings).

June 27 **The national curriculum - what place for international studies?** Council for Education in World Citizenship conference. Details from CEWC, Seymour House, London W1H 9PE.

June 29 **Higher education and beyond** organized by the Association of Graduate Careers Advisory Services at the Royal Society, 6 Carlton House Terrace, London SW1. Fee £10. Details from Gill Rodda, Careers and Appointments Service, The City University, Northampton Square, London EC1 4OH.

#### COURSES

June 30 **Records of Achievement** organized by the Centre for the Study of National Service Schools and the National Association for History. Costs in Education at Parliament Hill.

school, London NW5. Fee £8 (£6 members). Details from Margaret Little, 22 New End, London NW3 1JA.

July 2-3 **Religious education for children with special needs** exploring possibilities for RE with slow learners in mainstream schools and children with moderate and severe learning difficulties in special schools. Fee £30. Details from Ken Oldfield, Director, RE Centre, West London Institute of Higher Education, Borough Road, Isleworth, TW7 5DU.

July 8 and 9 **A day-course for GCSE teachers** at the Imperial War Museum to relate coursework objectives to the First World War collections. Speakers include Chris Culpin, chief examiner for LEAG, and there will be opportunities for gallery work. Fee £2.50. Details from the Schools Officer, Imperial War Museum, Lambeth Road, London SE1 6HZ.

July **Personal relationships and sexuality** organized by the Family Planning Association education unit for teachers of life skills in London, Cambridge, Manchester, Birmingham, Cardiff and Swansea. Details from FPA, 25 Mortimer Street, London W1N 7RU.

#### EVENTS

June 22 **John Ruskin memorial lecture** by Dr Joseph Rothenstein at a joint meeting of the House of Commons and the

the Council for Education in World Citizenship. Tickets £1.50 (£2.50 including reception) from CEWC, Seymour House, London W1H 9PE.

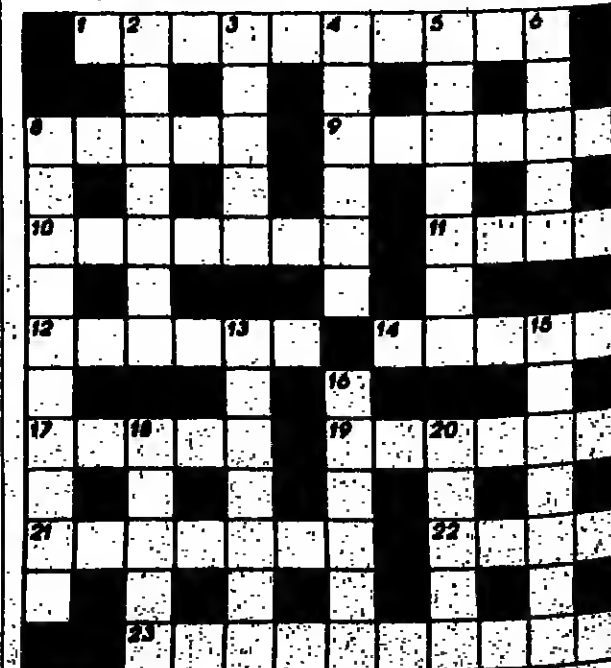
June 24-July 4 **Music Village Fair** at the Commonwealth Institute for 7 to 12-year-olds with musicians from India, Africa, the Caribbean and the Far East. Admission free. But school parties should book in advance. Details from the Education Centre, Commonwealth Institute, Kensington High Street, London W8 6NQ.

June 25 **An anti-racist approach to multi-cultural education** organized by the Centre for the Study of Comprehensive Schools at Haverstock School, London NW1, with Steven Desol. Details from Margaret Little, 22 New End, London NW3.

June 30-July 2 **Open days at the Science Area at Oxford University** for sixth-formers to visit physics, chemistry, metallurgy, engineering, biochemistry, zoology, earth sciences, biology, human sciences, psychology and other departments. Details from Dr Hugh Cartwright, Science Open Days Co-ordinator, Physical Chemistry Labs, Oxford University OX1 3QZ.

July 2 **National Festival of Voices for children** aged 9-13 years at the Royal Albert Hall organized by the National Association for Primary Education. Tickets £2.50. School fees 25 adults available from the box office, 01-585 8212.

### No 309 CROSSWORD by Rufus



#### Across

- 1 They share their responsibilities (10)
- 2 Numberless (5)
- 3 Collier putting out on one green (7)
- 4 Clothing in a torn without intention (7)
- 5 Not acted as a guide, yet didn't do any work (5)
- 6 Fin. inserted into a (4)
- 7 Old soldier, nothing right (6)
- 8 Lacking, negative (10)
- 9 Great, better (10)
- 10 Signal feat (5)
- 11 Descriptive of certain walks (4-6)
- 12 One drink served by Miss West in picture (7)
- 13 Take if it turns out in price (6)
- 14 A model work-place (7)
- 15 Decided to make (7)
- 16 A machine for index (6)
- 17 Lacking, negative (10)
- 18 Great, better (10)
- 19 15 letters, one cross

#### Down

- 1 They share their responsibilities (10)
- 2 Numberless (5)
- 3 Collier putting out on one green (7)
- 4 Clothing in a torn without intention (7)
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# Educational Supplement

DAY JUNE 19 1987 NUMBER 3703

## More light must shine on black successes

by Sarah Bayliss

Teachers, both in all-white and multi-racial schools, should know about the achievements internationally of black writers, scientists and religious leaders, a National Union of Teachers' conference heard this week.

Ms Ruth Grindrod, from the Afro-Caribbean Education Resource Project in London, challenged her audience to name three black writers, three black scientists, or even three black female scientists.

She told the conference at Stoke Rochford - on the theme of planning and implementing a multicultural, anti-racist curriculum in primary schools - that, for many teachers, gaining such knowledge would "take a lot of learning".

It was "tokenistic" simply to teach children about other cultures without looking at what she called the process of racism. A non-Eurocentric curriculum was needed, coupled with rigorous record-keeping and high expectations.

Disaffection with school standards was leading to an exodus of black children into the private sector where parents believed they would get results. "What they believe, and they may be right, is that if they are paying for something they will get what they want."

Ms Leela Ramdeen, an inspector for multi-ethnic education in the Inner London Education Authority, said she actively encouraged schools to invite "brave black men and women" to come into schools to describe their contribution to society. This included veterans who came to Britain to fight in the Second World War.

She asked how many children and teachers knew, for instance, that in the history of the Catholic Church there had been three black popes. The ILAEA had been among the first authorities to introduce anti-racist strategies, but it had "come a cropper" in the schools by not being able to provide courses and non-contact time so that teachers could give meaning to written statements.

The best work she had observed was where a whole school policy - rather than one or two teachers working in isolation - reviewed where the school was and how it intended to progress. The Thomas Report idea of school development plans, with short and long-term goals, had helped with this.

All children should leave primary school "feeling confident that they can challenge any oppression... racism, sexism or class discrimination". Mr Ramdeen said she was in favour of keeping outdated books such as *Little Women* so that children could challenge and analyse them. It was a "top-out" to throw books away when they did not fit in with current thinking.



Puttin' on the style: pupils from Lakers School, Coleford, Gloucestershire, get a taste of the gourmet life stewarding on the Orient Express and working in the kitchens of one of the world's most famous hotels. Other fourth-year pupils from the school spent a day as a butler at Longleat House, and in a Vidal Sassoon salon, as part of a work experience project.

## Grammars alerted to dangers of opting out

by Barry Huggill

Tiffin boys' school in the London borough of Kingston upon Thames was the front-runner this week to be the first state school to opt out of the local authority system.

But, in a surprise move, a spokesman for the newly-formed National Grammar Schools' Association warned that opting out could be a "poisoned chalice".

A Bill to allow schools to opt out will be put before Parliament in the autumn. It could become law as early as next Easter.

Mr Kenneth Baker believes that a number of grammar schools will choose to opt out in order to avoid the threat of comprehensiveization from Labour and Education-controlled councils.

The Education Secretary anticipates that the first requests will come from Tiffin school, the King Edward's foundation grammar schools in Birmingham and a number of grammar schools under threat in Warwickshire and Devon.

He is hopeful that parents in two London boroughs, Brent and Haringey, will see opting out as a way of short-circuiting the control of left-wing Labour councils.

Mr Baker for voluntary-aided status. They have made it clear that if this fails and if the I.E.A. goes ahead with its plans for total comprehensiveization, the school will become independent and charge fees.

Senior officials with Kingston council think it inevitable that the governors, with the full backing of parents, will choose to opt out and receive direct Government funding.

Mr Owen Gardner, a Conservative councillor and leading instigator of the campaign to save Tiffin, said on Tuesday that he was still hopeful that it could remain as a selective school within the local authority system. If

this failed, opting out would become a real possibility, he added. Opposition to Mr Baker's plan has come from an unexpected quarter. Mr Tom Tucker, of the Birmingham-based National Grammar Schools' Association, warned that any grammar school opting out would be taking an enormous risk.

"I wonder if this is not a poisoned chalice. If a school were to opt out and there was a change of government it would find itself in real trouble. A

Labour or Alliance council would never allow a school to opt back into the I.E.A. system and remain selective. "The scheme is superficially attractive but my advice is that it would be safer to stay within the system."

Mr Neville Mellon, headteacher of the King Edward VI grammar school, Stratford-upon-Avon, Shakespeare's alma mater, thought that opting out would be considered by his governors "as a way of maintaining our independence".

Parents' groups in London have given a mixed reaction to the plan. Mr Malcolm Canning, a parent activist in Brent, welcomed it: "Education in Brent is very unsatisfactory, as is shown by the number of parents sending their children to schools outside the borough. If opting out enables us to keep our children in the borough at schools outside council control then we would be delighted."

Mrs Audrey O'Dell of the Tottenham Parents' Group - a body set up to campaign against the anti-socialist policies of Haringey Council - was hostile.

"Standards are falling in schools and every effort should be made to improve them. Opting out will just cause more chaos and confusion and damage morale in schools - it will make matters even worse."

## Academics defend HMI independence

by Sue Surkes

Her Majesty's Inspectorate should not hesitate to stand up for professionalism and oppose bureaucrats if unjustifiable centralist proposals are made, a new book has urged.

HMI, published yesterday, singles out the curriculum as one area where the inspectors will need to "coalesce to guard against political interference and bureaucratic ineptness to educational matters".

Professor Denis Lawton, director of the University of London Institute of Education, and Professor Peter Gordon, head of the Institute's history and humanities department, say the spirit of independence within HMI is "very much alive" and will need to be "carefully nurtured" in future.

They later add: "In recent years, there has been a tendency for education to become increasingly politicized, and it would be easy for HMI to be used by the government of the day for the implementation of political doctrines. It is most important that HMI retain their traditional independence in such matters, and also that they use their ability to pursue lines of inquiry even if these are liable to cast doubt upon some aspects of government policy."

HMI, by Denis Lawton and Peter Gordon, published by Routledge and Kegan Paul, price £14.95.

Platform, page 4

### THIS WEEK

12.15 **CHINA WORK**  
12.15 **CHINA NEWS**  
12.15 **CHINA BACK**  
12.15 **CHINA BOOKS**  
12.15 **CHINA ARTS**  
12.15 **CHINA MUSIC**  
12.15 **CHINA DANCE**  
12.15 **CHINA THEATRE**  
12.15 **CHINA CINEMA**  
12.15 **CHINA LITERATURE**  
12.15 **CHINA HISTORY**  
12.15 **CHINA GEOGRAPHY**  
12.15 **CHINA ECONOMY**  
12.15 **CHINA POLITICS**  
12.15 **CHINA SOCIETY**  
12.15 **CHINA CULTURE**  
12.15 **CHINA RELIGION**  
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12.15 **CHINA TECHNOLOGY**  
12.15 **CHINA ENVIRONMENT**  
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12.15 **CHINA LEISURE**  
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# HMI hangs in the balance

In recent months, HM Inspectorate has been attacked, directly or indirectly, by various individuals and pressure groups on the grounds that it is part of an uncritical educational establishment. For example, in December 1986 the Hillgate Group issued a "manifesto", *Whose Schools?*, which made a number of interesting suggestions for "reform" in education and the elimination of "egalitarian propaganda".

Part of its onslaught on "bureaucratic patronage" was a harsh judgement on HMI: "... the time has come for a full and independent survey of the inspectors, whose role has undergone considerable unsupervised change since the institution was first established in 1839. The only recent official survey is entirely bland, and seems to permit and to condone a far wider range of activities on the part of HMI than has ever been expressly authorized by Parliament."

"We believe the time has come to define procedures, criteria and accountability of the inspectors, who are as likely as any other section of the educational establishment to be subverted by bureaucratic self-interest and fashionable ideology."

There is one very important inaccuracy in the above statement: the "bland survey" is referred to in the notes of the Hillgate document as *The Work of HM Inspectors in England and Wales* (DES 1983), but this is not the survey; it is merely a follow-up to the survey called "A Policy Statement by the Secretary of State for Education and Science and the Secretary of State for Wales on the Work of HM Inspectors in England and Wales".

Presumably the Hillgate Group had not read the *Study of HM Inspectors in England and Wales*, which was the report of the scrutiny of HMI coordinated by Sir Derek (now Lord) Rayner appointed by the Prime Minister. The Rayner Report, published in March 1983, was extremely searching and far from bland in its style. Indeed, since its inception the Inspectorate has been examined critically on a number of occasions (the Rayner Report makes considerable use of the critical Select Committee Report of 1968, for example), and the really interesting question about this uniquely English institution is why HMI has survived so many reviews.

This is one of the issues we have tried to address in our book *HMI* (published this week by Routledge & Kegan Paul). It is certainly true that the function of HMI has changed enormously since 1839, and it is very fair to ask whether it still has a useful role to play. But, as the Hillgate manifesto illustrates, the work of HMI is not well understood by the general public and even by professional educationists.

The Rayner Report justified the existence of HMI largely in terms of its professional expertise: civil servants in the Department of Education and Science are expert administrators, not

expert educationists, and there is a good deal of evidence to support the view that advice given to Government on education would be poorer without this kind of professional expertise.

As a result of the Rayner Report, the Inspectorate expanded at a time when the rest of the education service was declining. There are now approximately 460 HMIs led by senior chief inspectors, Eric Bolton, and seven chief inspectors based in Elizabeth House. There are also 60 staff inspectors who have national responsibilities of three kinds: for subjects such as English or engineering; for particular aspects such as special educational needs; or for phases such as primary.

One of the most common mistakes, among teachers and other educationists as well as the general public, is to confuse the work of HMI with that of local education authority inspectors and advisers. Both groups are anxious to be distinguished from the other (for a variety of reasons), but the confusion remains.

A reason for this may be that most HMIs are not based at DES headquarters in Elizabeth House, but in the regions (or divisions as they are known in the Inspectorate). Whereas HMIs have a national planning role, as well as being the "eyes and ears" of the Secretary of State, i.e., inspectors have a more parochial concern for the day-to-day running of the education service in their authority.

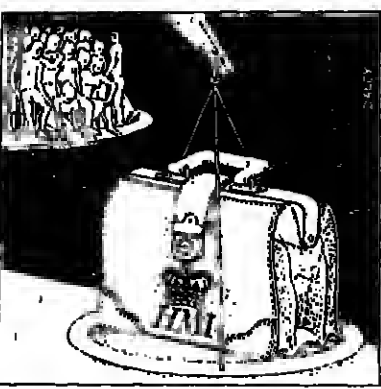
One significant change in the position of HMIs has occurred since the Secretary of State's decision in January 1983 to publish all HMI reports. This has made HMIs more visible and their work more controversial.

Even before 1983, however, the emphasis of HMI work had moved away from isolated inspections to wards (computerized) programmes of inspection resulting in such national surveys as *Primary Education in England 1978* and *Aspects of Secondary Education in England 1979*. Such national reports have assisted the Inspectorate in improving practice on a much wider scale.

Perhaps even more significant has been the work of HMI in the field of curriculum planning. From the early 1970s, inspectors were having internal discussions on the nature of subjects and their contribution to the curriculum. In December 1977 they published *Curriculum 11 to 16* which was highly critical of many curricula in secondary schools based on core plus options thinking; they proposed instead a common curriculum based on areas of experience. That was the first of many contributions to the curriculum debate, and many schools have responded to these initiatives.

The series, *Curriculum Matters*, seems, however, to have been ignored by Kenneth Baker in his recent pronouncements on a national curriculum. The part to be played by HMI in the new national curriculum game has yet to be established.

The position of HMI vis-à-vis the



**The professional independence of the Inspectorate is under fire again from the radical right, but the Education Secretary has more demands to make on its overstretched ranks. Denis Lawton and Peter Gordon assess the dangers**

DES and the Government is a delicate one. Tradition gives HMI a certain professional independence, but it is not unlimited. The senior chief inspector (SCI) has the right of direct access to the Secretary of State (without going through his bureaucratic superior, the permanent secretary of the DES), but HMIs have no right to criticize Government policy.

Nevertheless, some HMI reports in recent years have been remarkably outspoken on the effects of Government policy on the state of the schools.

For example, HMI produces an annual report of i.e., expenditure which frequently indicates unsatisfactory standards with inadequate resources. On at least one occasion, in 1984, vigorous attempts were made by local politicians and their representatives in Westminster, to suppress the publication of this information.

A more recent example of this professional independence occurred in the case of the general inspection of Brent i.e., it was generally assumed that the team of 50 HMIs was being "sent in" to criticize the much publicized anti-racist policies in the authority; HMI in its report had a number of harsh judgements to make, but Mr Baker did not get the answer he obviously wanted on the Brent anti-racist and anti-sexist policies.

The publication of reports has not only made the work of HMI more controversial, it has made the inspectors more vulnerable. On many occasions they have decided not only to publish the results of their inspections and surveys but also to reveal the methods used.

This is a well-known step. For example, in the recent *Quality Schools* (May 1987), Appendix 1 was devoted to "The Methods Employed in the Survey". This is a move away from an authoritarian stance of superior knowledge - part of the mystique of HMIs was that they simply knew a good school when they saw one (they picked up the "feel of quality" as they entered the building).

But now social scientists can compare HMI inspections with rules of ethnomethodology, and HMI survey techniques with established conventions for sampling, etc. Thus HMI judgements can be challenged on methodological grounds as well as in

terms of factual accuracy. Some look back nostalgically to the days when they could make their judgements and pass on.

The role of inspectors is changing other ways. They are increasingly involved in curriculum, and in the field of education they have even been asked to take on the role of local education authorities. The Council for the Advancement of Teacher Education (CATE) very classily with HMI, and heavily on HMI reports of education institutions.

To cope with these extra responsibilities, the number of inspectors increased in recent years, but the number is still small in relation to the range of tasks they are asked to perform.

One of the dangers we see in our book is that of the Inspectorate being overstretched and therefore unable to keep up to date. A whole existing structure is the provision for study leave and aspects of staff development. HMIs complain that they do not have time for "essential" tasks.

It is noteworthy that many countries, including China, are showing increasing interest in the Inspectorate as a model of bureaucratic inspection. And, as the Inspectorate becomes more important than ever, the body of professional opinion is to a certain extent independent of Government and the DES. In our book, we try to assess how HMI has been in that respect.

Professor Denis Lawton is head of the University of London Institute of Education; Professor Peter Gordon is head of the department of Educational Studies at the University of London.

## Don't boycott annual meetings, urges Joan Sallis Teacher, please listen

To one who knows me, who has heard me speak, read what I have done, will doubt for a moment my feelings for teachers and my identification with their cause. What is much more important, and what is for the Advancement of State Education, which I am privileged to chair, has been unwavering through three bitter years in its public support for the teachers' case for decent salary levels, their right to negotiate, and the priority given to the vital service in which they have invested their professional skills.

We have written and spoken many stirring words to ministers in your cause, which is also ours, we have rallied parents both locally and nationally to show their solidarity with teachers, and we have published the justice of your case in all the ways open to us. Perhaps therefore I may be allowed to say how troubled I am - and I speak for our committee who asked me to write in this way - about what seems a sadly misguided attitude to this 'term's governors' meetings with parents, which the National Union of Teachers and other unions are advising their members to boycott.

We know how battered and bruised most teachers feel. Apart from their battles over pay, they have had to suffer a constant stream of negative comment from politicians and the media, while every glimpse launched by politicians seems to be based on evil hostility to state education. We must stick together in the face of so many threats to the service and the children in it. By sending invitations to parents, meeting with them, and listening to their views, we have been waiting all these years to attack you? What is going to make them go away? If the odd one does speak out of turn, haven't you enough to cope with? It is the responsibility of you and your heads and governors to ensure that you are sure your best interests are being protected. Parents are not your enemy.



Joan Sallis

ways in which headteachers have been distanced from the rest of the profession. In the months and years ahead, we may have to fight threats to public education which will make what has gone before seem like children's games. People will be taken up onto mountain sides and shown the kingdoms of power and advancement. Efforts will be made to enforce schools away from local control, and if the first inducements offered don't bring them out in sufficient numbers, believe me, they will be improved. Teacher will be set against teacher, parent against parent. One doesn't know which to fear for most, the schools which opt out and expose themselves to the dangers of the unknown, or those which remain to face the all-too-familiar process of watering down the soup every year.

Who are these once-so-fond parents who have been waiting all these years to attack you? What is going to make them go away? If the odd one does speak out of turn, haven't you enough to cope with? It is the responsibility of you and your heads and governors to ensure that you are sure your best interests are being protected. Parents are not your enemy.

Interests and problems, we know we can't have it all. We know we can't have it all without you. So we have to get back and talk to you.

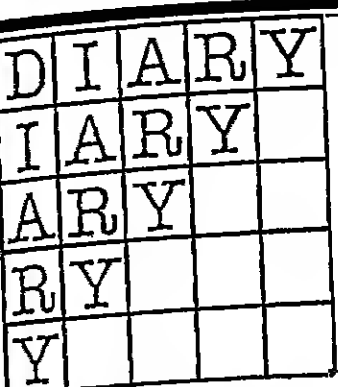
Other things worry me too. Some headteachers are giving up to small attendances of parents and evidence that some are not trying hard to attract parents in. It is hard to malice, but it reflects our attitudes in the whole operation. Just as I know the reasons for teachers' boycott, and they are real reasons, but that isn't the point. We need to build partnerships with parents more urgent, and to start the prize badly is a way to proceed.

Many wise heads will say "hard" to help make these meetings successful, supporting their own efforts, publicizing, giving the teachers their own subliminal message: parents have great respect for you. Don't take their eyes from you. Don't realize that well-attended meetings are the best defence against what you guard against: destructive manipulation of the participation of large numbers.

I don't regard the 1986 Act as the series of events which have threatened local education authorities, threatened teachers, and threatened schools. It is to me the culmination of a much older historical process, the likely to go away than it is supported by all parties. It is a stronger voice for the school, the local service is made up of schools, and save local government when the government can't give itself a framework for rebuilding the hierarchy and making it more effective. But only if you approach it with an attitude.

Please give it a chance. It is supported by you, always, and we continue to do so in the future. We surely face it. But please make it so hard.

Joan Sallis chairs the Campaign for the Advancement of State Education.



### House moves

Welcome back Ann Taylor, the Labour victor (just) at Dawbury. Ms Taylor was Mr Kinnock's number two for a short while in the days when he was shadow education spokesman. She blotted her copybook a trifle when she went round telling anyone who would listen that Roy Hattersley was the only man to lead the party. Not surprisingly she was quickly shunted out of the Kinnock office and went on to lose her Bolton seat in 1983.

The papers are now describing her as a Kinnock loyalist - which just goes to show how quickly politicians change their minds.

Not coming back is Peter Bruinvels, one of the few Tory casualties. This is excellent news for Mrs Angela Rumbold who was given a hard time by Mr Bruinvels when she was standing the Education Bill through the final stages in the Commons. He had a bee in his bonnet about sex and was forever pointing down amendments to the Bill banning it - whether for teachers, pupils or parents was never quite clear.

Mr Bruinvels was not everyone's cup of tea, but he was the most effective opponent Mrs Rumbold and her boss, Mr Baker, had. Mr Kinnock please note.

### Master's muse

Oh dear, oh dear, what is to be done? Two weeks ago we reported that 17-year-old Andrew Simons of the Crypt School, Gloucester, had won the Young Poet of the Year competition complete with £180 cash prize. Well, the money should in fact be going to a lady called Suzanne Vega.

The snag is that she isn't that young (mid-thirties) and she's a foreigner. Furthermore, she hardly needs the cash given the sales of her last two records.

Ms Vega is a seminal influence on Master Simons. Actually she's more than an influence - "source" might be a better word. To spare his blushes we won't reprint his winning poem or the song by Ms Vega to which it bears an uncanny resemblance, but take our word - they are almost identical.

To be fair to the judges, it must be said that they awarded the prize to Andrew because of his "musical ear".

### Age before talent

West Glamorgan education authority clearly doesn't want youth to triumph over experience when it comes to grabbing incentive allowances on offer from October as part of the Government's "generous" pay settlement. Mr Baker intends that the new £800 allowances should be used in rewarding outstanding classroom performance, although he "wants" advice on how to pick the lucky few.

Staffroom lotteries have been facetiously suggested in the absence of any merit payment system for appraisal. But West Glamorgan is considering a system of rewarding by ability - that is ability to grow old gracefully.

Its answer is age-related testing. To qualify for a £800 allowance a teacher would have to be at least 37 and have been five years on the maximum of the main professional grade (or its equivalent) for a minimum of five years. According to one scheme suggested in a county council discussion document:

"To qualify for the £1,000 payment a teacher would have to be at least 48 and have received a £800 allowance for at least five years. Teachers in line for £8,000 payments would have to be 57 and have received the 'second stage' allowance for at least five years. The document thankfully spares us details of how old staff would have to be to qualify for the £5,000 or £4,200 allowances, or indeed headships. I think what Mr Baker intended, I think."

### Acronym

DAWBU... (The text is partially obscured and difficult to read.)

Sue Surkes talks to two deserving recipients of this year's curriculum 'Oscars'

## Dancing in step with the community

From the outside, there appears to be nothing special about Rushey Mead school in Leicester, an 11 to 16 comprehensive serving a largely Asian population.

But to walk inside is to enter a kaleidoscope of activities that colourfully reflects the life of the local community.

Drop in this week and you will find two artists running workshops in textiles and other crafts. On Monday, two Indian dance tutors were working with the pupils.

On another occasion you may find youngsters discussing the impact of information technology with local representatives of Walkers Crisps.

"There is very strong support within the school and the community to try to have the school as a facility and a facilitator for community development," Mr Steve White, the head of Rushey Mead, said. "The community links infuse the whole curriculum."

This week, the school's success has been acknowledged by the national Schools Curriculum Award scheme.

The schools receiving awards - will be out of the 287 who entered - will be able to choose from a series of especially commissioned works of art and can use the award symbol on their stationery.

The scheme is sponsored by the Government and private industry and administered by an independent educational charity on behalf of the Society of Education Officers and the Association of Directors of Education in Scotland. It recognizes schools in which have played a significant role in their communities and used locally available resources.

This is the second round of awards to be announced since the scheme started five years ago. "We hope that the awards will give a fillip to the morale of the schools and give the public a better appreciation of the work so many schools are doing," Professor John Tomlinson of Warwick University, chairman of the scheme, said.

Rushey Mead school is already well-known to the north Leicestershire community through its open-door policy and after-school facilities. A sports hall and gym is open to the public every night. On Thursday and Friday attendances of more than 400 pupils attend Gujarati classes and weekends are free for celebrations such as Indian weddings.

Many of the school's activities also cement links with the outside world. Optional Gujarati lessons have started and it is hoped other community languages will be introduced. Religious and cultural festivals are celebrated with the local community and the school plans to host a major festival organized by the Hindu Mission.

Rushey Mead has also played an

important part in setting up the Leicester-based Glimpses Art Community Association. The two community artists are currently in residence for a fortnight.

The industry links have been encouraged as part of the School Curriculum Industry Project. Close contacts with the nearby Walkers Crisps company have resulted in work experience for pupils and joint in-service training ventures.

Enthusiasm for the locality and a belief in local links are the hallmarks of another very different award winner - Thornbury primary school - a 590-pupil, purpose-built, open-plan school on the sprawling and, in parts, relatively impoverished Estover housing estate in Plymouth.

Community representatives - the police, lollipop ladies, doctors and nurses - come into school to explain their roles and stimulate discussion, and visits are arranged to local places of interest.

Further links are encouraged through a conservation project to landscape areas of the school grounds. A natural meadow and an environmental pond to attract a variety of flora and fauna are planned.



Rushey Mead has become a cultural centre as well as an educational one

Home-school links are established even before a child joins the school and the partnership with parents is maintained throughout his or her school career.

Parents are encouraged to come into school at any time. They are closely involved in school projects and have just begun a paired reading scheme with infants and lower juniors.

Thornbury school's enthusiasm for tackling topics and issues from a variety of angles is encapsulated in its almost totally thematic approach to learning. (Juniors have some separately timetabled lessons in maths and games.) Last term, all curricular areas

were focused on a fiction-based project.

Flexibility is a key to the school's ethos. Timetabling is loose enough to allow children to spend a bit longer on a piece of work if necessary. Team teaching means pupils in any one class might see up to four teachers for different topics each day.

Mrs Liz Tarr, the school's head, said: "School is not just about learning facts but about a whole set of attitudes and values you have for life." Links with the community were vital, she stressed: integration not only benefited pupils' education but gave them much greater confidence.

## EVERY CHILD IS SPECIAL

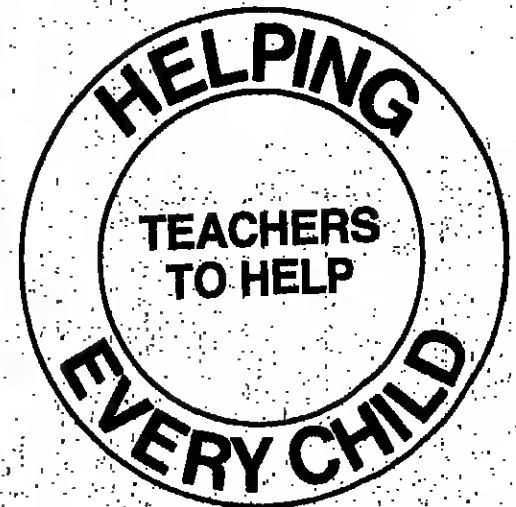
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## SELECT COMMITTEE

## Lack of money isolates pupils in special need

by Sue Surkes

A lack of resources has severely hampered the successful integration of children with special needs into mainstream schooling, says an all-party House of Commons committee report on special education.

In its report, the Commons Select Committee on Education says there is "little doubt" that lack of cash has thwarted the aims of the 1981 Act - and calls for extra money to be spent on special education. (It does not spell out where extra resources ought to come from, however.)

It notes the Government's original hope that closing special schools would generate extra cash, but stresses the impossibility of pinpointing where all the proceeds have gone from the closure of 147 special schools since January 1982.

The Committee's report, written hastily after the general election had

been called, will be welcomed on some aspects but rejected as too weak-willed on others.

It is highly critical of the Department of Education and Science's "paucity of information", noting that the Department's involvement in monitoring implementation of the Act, disseminating good practice and issuing guidance has been "very limited".

It says the DES had no systematic knowledge about the nature and extent of provision for the wider range of special needs. It had little information about the workings of the Act as it related to the under-fives and offered no details either about the numbers of under-fives who might be receiving special education or of the numbers of pre-school children with statements.

The Committee appeals to the DES to monitor the implications for special needs children of the Education Secretary's plans for a national curriculum and benchmark testing.

The proposal for defining levels of achievement, including testing attainment levels, may present problems about the interpretation of individual results. A major question arises about the prospective relationship between inability to reach the standards set and the identification of special educational needs as defined by the Act.

On the frequently discussed issue of a national advisory body for special education, however, the Committee is more "optimistic". It supports the establishment of a "multi-disciplinary national development group" to contribute to good professional practice, but stresses that such a body would have to focus on "particular aspects of professional practice, selected as priorities in consultation with the Government and other interested parties".

It also says it accepts the reasons for the suspension in 1974 of the Advisory Committee on Handicapped Children and for the rejection by the Secretary of State in 1985 of the working party's proposal for a National Advisory Committee for Special Educational

Three investigations started by the last Parliament's Select Committee on Education, Science and the Arts remained unfinished when the general election was called. Here and opposite *TES* staff analyse their reports - which were published this week



The DES is accused of providing schools with "very limited" information on good practice

Needs.

But it is on issues such as speech and other therapies, and in-service training that the committee's views are likely to cause most disappointment.

The report concedes that "having arrived at an agreed statement of needs it is not possible for the i.e.s. to ensure the delivery of many of the means of meeting those needs". (Speech and other therapists are employed by health authorities.) And it

was causing confusion, with the terms "special needs" and "special educational needs", for example, being used in different ways.

It heard that the Act's focus on statementing had led some to suggest that its definitions did not include the wider range of special needs described in the Warnock Report of 1978.

"The evidence suggests that in some i.e.s., a preoccupation with the provision for particular children as a result, may have led to less than adequate attention being given to the wider forms of special educational provision."

Committee members say they are in no doubt that aspects of the statementing and assessment procedure are not working satisfactorily. They say they were told that procedures took too long, that parents found the language and procedural complexities difficult to understand, that statements were vague and that many statements were tailored to fit existing provision.

The report notes the lack of central guidance on what constitutes integration and says this might have helped fuel fears that i.e.s. would embark on programmes of widespread special school closure.

It says it is important for i.e.s. to have clear statements of policy on integration. But it also stresses the "important place held by special schools under the Act as part of an

## SPECIAL NEEDS

says problems arising from this state of affairs were a major concern in the evidence submitted.

But in pointing out it was unable to examine the Department of Health and Social Security on these and other matters - the general election got in the way - it concludes only that there are issues which require "careful joint consideration" by the education, health and social services authorities.

On teacher training, it is similarly reserved. "The Committee has not been in a position to explore this aspect of special education in any detail and as a consequence can only reflect the concern shown in the evidence presented."

The Committee was told that the relativity of the 1981 Act's definitions

## Prisoners' rights still neglected

by Ian Nash

Higher spending on prison education is needed and every prisoner should have the right of access to an appropriate course, the Commons Select Committee concludes in its report on prison education this week.

The committee also condemned the Government for rejecting its earlier call for a Prison Regimes Act to include voluntary access to education on

## PRISONS

grounds of cost and because it would have given prisoners a right to attend law-abiding citizens.

The Committee appreciated the financial argument but found it "unconvincing" to pretend the Government's refusal on grounds of principle. Rights of access were necessary to improve the quality of education in prisons.

The Government's objections were rejected as "unconvincing" and it was pointed out that the present level of

## THE KEY RECOMMENDATIONS

- Detail of past and planned expenditure, staff employed and the number of hours spent by teachers on prisoners should be published annually in the Public Expenditure White Paper.
- A central register should be kept of teaching hours lost through operational and other difficulties.
- Training of officers should be reviewed to ensure that they are

equipped to support the education service.

● Provision should be increased so that three years to ensure that 7 per cent of prison expenditure is on education; and

● Local education authorities have a duty to advise officers on adequacy and efficiency of educational provision.

education in the rehabilitation of offenders.

The report also pointed to wastage of resources by the prisons themselves. According to HMV, many classes were cancelled or disrupted by late arrivals.

The Committee called for "better management to solve resource problems". We find it difficult to understand why even at the present level of expenditure and given officer man-

## Further fraying of school fabric predicted

by Barry Hugill

Government spending plans will lead to further deterioration in the state of school buildings, the Commons Select Committee on Education concludes in its report on expenditure.

The MPs' most important recommendation is that the level of investment by local authorities in capital - schools and colleges - and in buildings should be maintained at real levels achieved in 1986/87.

The Government's plans would lead to a cut of about one-quarter in capital expenditure during 1987/88 as compared with 1986/87, says the Committee. It is anticipated that gross capital spending will fall from £540 million to £400 million next year.

By MPs were in a clear majority in the Committee, but nevertheless Government comes in for some criticism. In particular, the Government is said to be much too low on capital expenditure.

It does not, however, put a figure on the amount that should be granted, nor does it comment on proposals, under review in Whitehall, to introduce student loans.

## THE KEY RECOMMENDATIONS

- More spending on maintenance and repair of schools and colleges;
- Independent research into the effects of central government inflation and systems grant cuts;
- A rise in the value of student awards;
- More detail to be published about the financing, administration and accountability of city technology colleges.

The report further notes that the Act, which devolves the duty of health authorities on parents and others, is working to the satisfaction of voluntary bodies. It also points to health authorities about young children could have special needs and parents not always being informed by voluntary organizations which help them.

At the other end of the spectrum, the Committee is recommending the expansion of the scope of the Act so that it applies to further education colleges as well as to schools.

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The Government is often criticized for making unrealistic estimates about the amount local authorities will need to spend to maintain the education service. The Committee subscribes to this view, and observes that in recent years central government has made totally unrealistic projections of future i.e.s. spending.

The latest budgetary plans relate to 1987/88 and the following two financial years. They project an increase in spending of some £2 billion-£3 billion above the January 1986 plans and as such, says the Committee, represent a



Capital expenditure is to be cut by 25 per cent during the current financial year

more realistic view of achievable levels of education expenditure.

Nevertheless, the MPs suspect that the i.e.s.' real spending will exceed that projected by the Government. The Committee says the Government should either make it clear it will not tolerate "overshoot" by local authorities and intends that spending should be within the limits set out in the White

Paper on expenditure, or accept that overspending is necessary and legitimate.

An example of the mismatch between Government projections and i.e.s.-estimated actual expenditure are contained in two sets of figures. The Government planned expenditure of £308 million in 1986/87, compared with a local authority figure of £471 million.

## SELECT COMMITTEE

Plans for 1987/88 have been set at £364 million - which is £57 million above the January 1986 proposals. It is, however, a projected figure well below real spending in 1986/87.

Despite the criticisms, the Committee accepts that "there appears to have been" a real increase in current expenditure on education, other than on teachers' pay, over the past two financial years. The increase is largely explained by local government overspending. Actual spending by central government has risen very little, says the Committee.

The MPs estimate that teachers' pay will consume almost 80 per cent of any spending increase in the coming financial year.

The report was completed before the dissolution of the last Parliament and its content was known to the Labour MPs on the Committee. They obeyed by Parliamentary convention and chose not to "leak" it despite the ammunition that it would have provided for the party during the election campaign.

## MPs' reports point the way forward

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# Bullying bolsters unhappiness of returning home

The need to conform in Japan is taking a heavy toll on the growing numbers of youngsters returning home with their parents from foreign postings and having to reintegrate into the education system.

Returnees are frequently victims of bullying by their classmates, who criticize not only their different behaviour and lack of language ability, but even their different looks. Having been encouraged to express themselves while overseas, they find their individuality and independence a blight in Japan, and must force themselves back into the mould if they are to be accepted by their superiors and peers.

Two proverbs illustrate the point: "Treat a stranger like a thief" and "The nail that sticks out gets hammered down." Children whom a Westerner would consider bright and full of initiative become, in Japan, too assertive and talkative, unco-operative and arrogant. Of course, children in any culture can be unkind to newcomers, but the phenomenon seems more widespread and harsh in Japan than elsewhere.

This is a dilemma for a country that says it wants to open up internationally, but clings to a deeply-rooted tradition of homogeneity. About 10,000 children returned from abroad last year, compared with some 20,600 in 1982/83, the first period covered by a government report on the issue. Efforts are being made to help, although more emphasis is placed on exporting the Japanese education system than on reintegrating children with changed values.

## JAPAN

**Barbara Casassus reports how children back from abroad are singled out for rough treatment**

There are now 80 full-time government-subsidized schools abroad, which provide compulsory education from the age of six to 15 and are mostly in developing countries, and 95 programmes of supplementary weekend classes, mainly for Japanese and maths.

In Japan, a few local education boards give special treatment to returnees in upper secondary school entrance exams, and some allow children with a language problem to attend a lower class temporarily. Regulations in Japan prevent a slow learner from staying down a year and a gifted child from missing a year. Some universities also waive the preliminary standard entrance exam or hold special tests for returnees.

The Government will open a new international secondary school at the beginning of the 1988 academic year on April 1, with 10 places in each class of 40 reserved for returnees or foreigners. Extra subjects will include world cultures, foreign literature, and German and French as second languages. Pupils will also be able to sit for the International Baccalaureate.

The Education Ministry has increased its budget in recent years to

## OVERSEAS



Out of the circle: a Western education can leave pupils alienated

designate more areas and schools to accept returnee pupils. The Mita high school in Tokyo's Minato ward has educated returnees from more than 40 countries since it started its programme in 1977. Many have been admitted to leading universities, such as Tokyo, Waseda and Keio.

The secondary school attached to the private International Christian University has a quota of one Japanese-educated pupil to two returnees, and gives special language training if required before pupils join the mainstream classes. The famous cram schools (*juku*) also play a role. Some have set up overseas branches, and offer tailored courses in Japan for returnees preparing for secondary school or university entrance exams.

The returnees themselves often have a clear understanding of the problem. They say it comes as a shock

to discover not only that they do not belong, but that they ought to belong. They are surprised by the omnipresence of the "group" and the Japanese obligation to appear modest.

In one case in the United States, a high school teacher suggested to a Japanese pupil that she should move up to a more senior class for maths. In a typically Japanese reaction, the pupil said she was not confident of her ability, and was then taken back to be left where she was. Tired of waiting, she eventually reminded the teacher who, in a typically Western reaction, said she was glad the pupil had found her self-confidence.

Professor Herbert Pessin, of Columbia University, has observed that "children's return to Japan, which should be a joyous experience, is all too often a bitter one. And quite apart from their personal tragedies, their

special experience and skills are potentially so valuable to the country - are neither appreciated nor used.

"It is hard to imagine a person of resources... but there are enough of them, and too many are based on the premise that they are 'problem children' too difficult for regular schools to handle."

On the brighter side, returnees are generally able to handle international maths and science. The Ministry of Education, which also just held in Belgium, "Co-operation and partnership" was the somewhat metaphysical theme chosen for discussion by the Ministers, officials and representatives at Mons of 11 of the 20 projects. But, against all the odds, some useful guidelines were developed on how to make lasting partnerships out of school-to-work links, which contrast with some disappointing reports on the effects of industry Year in the country.

The earliest pilot projects, designed to help Europe's least employable youngsters make the transition from school to work, were born some 10 years ago. One of the first was the Irish project at Shannon which developed curriculum materials, mini-companies and ways of managing relationships

Patricia Rowan looks at the 'district approach' to school-industry partnership

# Networks in place of repairs

## EEC

between schools and the outside world which still influence all the others.

The second programme was agreed in 1982 out of experience gained in the first, and knowledge that more than six million 15 to 25-year-olds are unemployed within the European Community. In the five years since then the EC has put 40 million ECUs (£28 million) (matched by a similar amount from national governments) into a programme emphasizing the "district approach" - establishing community networks with schools as the linchpin, but including employers, trade unions, parents and local government in a working partnership aimed at changing perceptions as well as job prospects.

As well as partnership, projects were expected to develop work experience schemes; equal opportunities; improved guidance, counselling and information services; staff training; alternative curricula; action on social problems; enterprise schemes; integration of young migrants, and new forms of assessment and certification.

If that sounds a familiar agenda to British ears, it should come as no surprise that the two UK projects in Manchester and Northamptonshire were chosen by the Department of

Education and Science from those involved in its own low attainers' project, or that their curriculum developments were streets ahead of most of the others exhibiting at Mons. But worthwhile lessons are being shared through the project network on how to develop partnerships between schools and local firms and community which not only work, but last.

"You wouldn't need so many 'repair' programmes if some of the temporary measures were integrated into the mainstream of education and training," pointed out Gerhard Welbers, director of IFAPLAN, the independent research organization which has guided and influenced the transition programme. He warned that young people can be bewildered by the fragmentation of training, social and guidance organizations - each protecting their respective fields of competence - and that many were in danger of entering on "training programme careers", moving from one temporary, vocational preparation programme to another without ever entering the labour market.

Schools couldn't just sit back and wait for things to get better. There had to be substantial changes in the way they worked and a good number of models, approaches and structures had been worked out and tested in the pilot

projects which should be adaptable and transferable. Partnerships might not be strong enough to survive, if links were supported merely by helpfulness on the part of the external partner, with one partner constantly in the role of "giver", and the other of "receiver". There needed to be benefits for both partners in cooperation and the tasks of each had to be clearly defined.

Further discussion among participants confirmed that employers do not want to be involved indefinitely in committee meetings and informal discussions about co-operation. What industry preferred was task-orientated groups and action on specific programmes. And difficulties were just as likely to arise on the school side; it was important to sensitize headteachers and the total staff, not just individual teachers.

Does it work? The evidence seems to be that employment prospects have improved in Northampton (where the project is still expanding) as they have in Shannon, Kessel, Modena, Biella, Zealand, Hvidovre, West Flanders and Saint Ghislain. "It has changed the students," said a previously sceptical West German official, "and it has changed the teachers. But will we have the money to carry on when the programme is finished?"



Many young people are in danger of entering on "training programme careers"

# Anti-racism manual shows bias

## UNITED STATES

since whites dominate and control the institutions that create and enforce American cultural norms and values. There was worse to come. "Even if an individual white American is free from all racial prejudices, he/she remains a racist," said the manual, "for he/she receives benefits distributed by a white racist society through its institutions. They do not have to consciously decide to oppress racial minorities in order to be racist."

"In order to change a racist society," it went on, "all persons, particularly white persons in the US, must actively choose in some instance to question and go against authority, rules and

values, in order to behave in an anti-racist way and fight a racist system."

All this was too much for Mr. Hinkind. "People have a right to say what they want," he declared, "but the question is, what is this doing in a teacher-training manual?" The Schools Department defended the manual bravely, claiming that the statements were meant "to provoke discussion and examination of institutionalized racism."

"However," added a spokeswoman, "these statements may arouse strong, hostile reactions that tend to polarize rather than to promote an open and non-threatening atmosphere in which to examine these same concepts."

The manual has been withdrawn.

# Relief and suspicion over sale

Washington's educational white elephant is actually a dirty shade of grey - a concrete nightmare that sits in the centre of the capital, gobbling money and educating no one. For 13 years the Pre-Vocational School for the Handicapped has been used and getting worse.

But even white elephants can be sold. The firm of the DC district school board, this one has just been bought by the city council, which is finding an extra \$8.1 million (£5.1 million) in construction money to exchange for the building.

Exactly what the council intends to do with the school is a moot point. It was originally conceived as a state-of-the-art day training centre for the

handicapped, but before it could be completed there was a change in national policy. Handicapped children, Congress decided, should be educated with normal students.

That left officials who would never have dreamed of the school's use for its designed purpose - which would have been bad enough.

But it transpired that the school had other drawbacks: a badly designed roof that leaked like a sieve; sagging concrete; hallways too narrow for wheelchairs; and walls built of the wrong materials. For years, around \$10,000 a month has been spent to stop the building falling down.

It has been estimated that it would cost \$2 million to repair the school, and

\$2 million just to demolish it. In these circumstances, Mayor Marion Barry's offer to buy the monster has seemed too good to be true.

There are rumours, apparently well-founded, that he intends to sell the building for a profit.

Others whisper darkly that he intends to renege on the promise to compensate the school system with the \$2.1 million to provide alternative facilities for severely handicapped children. "It's not true," said one of his aides. "When the mayor has signed an agreement with the school board, he's kept his word. They know that."

## Pioneer author

Mr Alec Peterson, the pioneer of the International Baccalaureate and the United World Colleges, has just published a book which tells the story of both projects.

*Schools across Frontiers* (Open Court, £17.50) charts the 25-year history of the UWC, with six colleges around the world, and the IB, in its twentieth year, with around 350 schools and more than 12,000 diploma holders in 50 countries.

# Union and Church in challenge over faith

## IRISH REPUBLIC

A row over a requirement that teachers appointed to schools under Roman Catholic management should be "protesting" members of the faith is still simmering in Irish primary schools.

The recent annual congress of the Irish National Teachers' Organization was told that the union's leaders were to make direct approach to the Catholic bishops who are patrons of most primary schools in the Republic. This follows the refusal of the Catholic Primary School Managers' Association to lift the requirement, which was listed in guidelines on staff appointments issued to schools.

The association insisted that, in listing the "practising Catholic" requirement, it was only putting on paper what had been the understood position for more than 150 years. It argued that, as religion was an essential part of Catholic schools, teachers had to be thoroughly versed in the faith.

But the union retorted that this amounted to discrimination and said that, outside the denominational schools, there were very few jobs for primary teachers in the Republic.

The system of local school control was devised in 1831 by Lord Stowell, the Irish Chief Secretary, in order to inspire confidence in the public system of education he was endeavouring to develop.

Although the original intention was that children of different religions would be educated together, this was opposed by various churches - not only the Roman Catholic - and the system was divided along denominational lines. It has remained that way ever since.

There are about 3,200 which have as their patrons the local Catholic bishop; some 250 schools with Protestant affiliations; and a dozen which, for historical reasons, come under the aegis of the Education Ministry and a few dozen other "special" schools for handicapped pupils.

In recent years, there has been a movement towards multi-denominational schools - three have been set up and a few others are planned.

The Ministry pays all the teacher salaries and most of the running and building costs for primary schools. But it will not become involved in the "practising Catholics" row on the basis that the schools are private institutions.

Both the managers and union have obtained legal advice on the matter. If, as seems likely, the bishops also refuse to lift the requirement then the union will consider pursuing the matter through the courts.

John Welshe

# Jamaicans uncommonly entranced by cheating

Hundreds of children and some of their teachers in the Jamaican capital, Kingston, have come under a cloud with revelations of cheating in the 1987 Common Entrance examinations, which serves to select pupils for the island's grammar schools.

Some 47,000 11 and 12-year-olds sat the examination in January in an effort to win one of 10,000 places. Results were due this month.

A statement from the Ministry of Education said there had been cheating and children from about 12 schools would have to take new papers. It is alleged that papers were available to some pupils before the exam date.

The Ministry also indicated that children of some schools not implicated would be asked to re-take the exam - a decision which sparked protests from parents and teachers, and led to calls for the Education Minister to think again.

Mr Neville Gattimore, who assumed his portfolio late last year, said investigations began when several schools that had poor Common Entrance pass rates previously showed a dramatic improvement.

Some suspicion has fallen on the Government printing office, which produces the papers.

Mr Gattimore said: "The printing of further examination papers will not be done at the Government office. Any school found cheating will be disqualified for that year and possibly for three years."

The Jamaica Teachers' Association said that, if any of its members were proven to be involved in the irregularities, it would take action against them.

# Ministry puts girls' appeal into science

Dutch girls have been the target of a Ministry of Education campaign that urges them not to drop pure science and mathematics from their exam list at school.

For the first time, the Government put out television advertisements and produced brightly written pamphlets to reach 15-year-old girls who all too often abandon pure sciences at the first opportunity, and so reduce their chances for higher education and jobs.

The campaign has featured such copy as: "If you are a girl and crazy about airplanes, there really are other professions than being a stewardess. Such as designing airplanes yourself. Exciting, precision work!"

The Netherlands, while boasting a highly modern economy and a strong reputation for scientific research and development, has a lower percentage of girls studying sciences and women pursuing technical careers than any comparable Western nation.

The Government pamphlets explain: "Choosing a pure science often requires a bit of nerve. Boys select these subjects quicker than girls. And it's not nearly as common here as it is abroad for girls to do 'something technical'."

The campaign reached its climax earlier in the year when Dutch 15-year-olds traditionally choose the range of exam subjects they will face two or three years later.

Although final figures are not yet available, the Ministry believes its £225,000 programme of advertisements and brochures has reached a large number of girls and had some influence on their future exam choices. It plans to run a similar campaign next year.

Ms Marijke Bolle, a Ministry spokeswoman, said: "Girls tend to study those subjects they think they are good at. But science and mathematics are good

## NETHERLANDS

"But they realize eventually they can't get the job they want if they enter higher education without dropped pure science subjects early."

Only 60 per cent of Dutch secondary schools choose to offer pure sciences as an exam subject compared with more than 80 per cent of boys.

The Ministry's campaign says that they may need to have a good knowledge of science if they get ahead in fields which immediately appear highly profitable, such as photography, painting, health care.

The attempt by the Dutch Government to promote technical subjects among girls, with increasing signs of shortage of young professionals in computer science and chemistry.

Philips, the Dutch electronics and the country's largest private employer with a workforce of 20,000, recruited a record 360 students last year for departmental technical jobs because it could not find enough girls to fill its vacancies.

Most teachers' groups have reported the Ministry's campaign to girls to consider studying science, and there have been critical voices.

Some teachers point out that it is difficult enough as it is for girls to find science itself and to compete with industrial salaries. They say that Government, which has been pushing back on education spending, is now back on education spending, a boost to the number of young people studying science without considering the resources necessary to teach these classes.

Ms Marijke Bolle, a Ministry spokeswoman, said: "Girls tend to study those subjects they think they are good at. But science and mathematics are good



Paper chasters: publishers feel under threat from the duplicating boom

# Photocopiers in bad books

Danish schools have been spending more annually on photocopying than books, a survey has revealed. The country's publishers say that, in 1984, £17 million-worth of textbooks were sold to state and private schools. But the schools estimated they had made £16 million photocopies (the equivalent of five copies per pupil per year) in the same year at a cost of £18 million.

In the light of these startling statistics, the education authorities are beginning to reassess their whole attitude to the photocopying boom in schools, which started in the 1960s and shows no sign of abating.

The average school makes 115,000 photocopies a year and the total cost of one photostatic, including rent of machine, paper costs, 22 per cent VAT and royalties, is currently at around 5p, compared with 9p per page for a school book.

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Christopher Follett

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## LETTERS



James Callaghan: Ruskin speaker

## Lore lord

Sir - Coming back from holiday I had no need to replenish my stock of bedtime fiction. Lord Donoughue's Platform article on Mr Callaghan's Ruskin speech (TES, May 29) was an adequate substitute. He writes of how in "many cases" the NUT... I never once heard mention of education or children. The fact is that Lord Donoughue had no dealings of any kind with representatives of the union, which explains the ludicrous absurdity of the second part of his statement. It is also quite extraordinary to read an account of the provenance of the Ruskin speech which makes no mention whatsoever of the secret Yellow

Book prepared for the Prime Minister by the DES and leaked to *The TES*, which public-spiritedly published its tissue of distortions, half-truths and plain whoppers. It was the *Yellow Book* which was the occasion for the speech, which was hyped to the skies in advance.

Lord Donoughue claims credit for drafting the speech. He is welcome to the credit for a very poor effort which was in fact drafted by an official who will now be grateful to be relieved of the responsibility by such a distinguished writer of fiction.

MAX MORRIS  
Former president, NUT  
44 Coleridge Road  
London N8



Bernard Donoughue: Ruskin author?

## Solihull did its CTC spadework

Sir - I have rarely been driven to reply to an article, but "A revolution begins in Solihull" (TES, May 29) was an unimpaired unattributable quintessence, innuendo and downright misstatement.

The location of the city technology college, Chelmsley Wood, is not a squalid, inner-city area. This "new town" area of Solihull demonstrates a sensible, community-led, well-planned green open spaces and ease of access. I take exception also to the statement that "there is little evidence that the (Solihull) politicians listened to the educational arguments... before leaving the site". The educational background was set out fully in the director's report to the education committee on February 4, 1987, and that report generated a thorough and reasoned debate in which arguments of

curricular choice, standards of attainment and organizational viability occupied the highest ground.

The education committee did not "go against the advice of education officers". The director, in his report, warned that there could be a knock-on effect on pupil numbers at a borough school but suggested, conversely, that the authority could easily adjust admission limits to take account of this factor. That advice was intended to be objective and was taken as such by the committee.

Your report quoted an anonymous spokeswoman within the education department at Solihull. Upon investigation, I have learned that the alleged "spokeswoman" was a secretary within the department endeavouring to be helpful to your reporter. Your reporter spoke neither to the

director, nor to the leader of the council, nor to me.

The account goes on to refer to 800 Birmingham pupils fleeing "to the leafy glades of the south" (Solihull), and of a further 320 being required for the CTC. There are actually already 1,000 Birmingham secondary pupils in Solihull schools, north and south, and, since a catchment area for the CTC is still awaited, the precision of your correspondent's figure is even less reliable than his 20 per cent error quoted above.

It is stated that the director fears for second-phase TVEI in Solihull in 1988. He does not. It is stated that the i.e.a. has sought to distance itself from the CTC. It has not. It is stated that, over the CTC issue, "Solihull is already divided". Where is the evidence for this, beyond a scrawny handful of

unattributable vox populi reticences?

The truth is that the only public meeting called to protest against the CTC founded, as almost all the parents who attended were supportive of the principle. And, at the official handover of Kingshurst school to The Hanson Trust, Meriden Labour Party was represented, in the heart of a Labour-dominated area, by one protester.

Alas, your article is typical of so many emanating from the educational press that have sought to rubbush the CTCs. To paraphrase one more illiterate than your reporter - opinion is cheap, facts are bought with greater leg-work.

GEOFFREY WRIGHT  
Chairman  
Solihull education committee

## Touch of TVEI

Sir - I thought Ian Nash's article about the Solihull City Technology College captured the rather embarrassed confusion and uncertainty that surrounds this institution, the philosophy it represents, and its possible effects on local state education.

The staying-on rate in North Solihull concerns us all. What does need pointing out is the effect of the Technical and Vocational Education Initiative project in that figure. The Solihull scheme is based on a consortium arrangement which involves some students travelling to different schools for whole morning sessions.

The staying-on rate of my TVEI students following our own media technology course and attending other TVEI courses is 33 per cent and will increase again this year. This shows what can be done when teachers are given the resources to develop imaginative, technologically-based

courses which have post-16 progression routes shared with other schools.

I have considerable doubts whether a CTC intake, compiled as a result of parental interviews and aptitude testing of 10-year-olds, is going to increase the staying-on rate. What it will do is concentrate a number of well-motivated students (or students with well-motivated parents) in one heavily-resourced institution with considerable implications for the quality of education offered in other schools. When adult unemployment is running at 30 per cent, you do not look to schools to solve the problem of inner-city areas. They can do something by sharing resources and expertise with working closely with post-16 institutions and local industry. The CTC approach makes this task far more difficult. And preserve us from our allies!

RICHARD METCALFE  
Head, Sennin Digby School  
Chelmsley Wood  
Birmingham

## Full benefits

Sir - The article on "Adult training schemes condemned" (TES, May 29) gave a totally inaccurate description of the training available under the new Job Training Scheme, and I feel that such ill-informed comments can only serve to increase hostility to it.

There is no rigid format to the training provided. Each training package is tailored to suit individual needs and the local employment market. All technical programmes are a combination of directed training and practical experience, the format of which is arrived at by negotiation involving the trainees, the managing agent and the work experience provider.

The penultimate paragraph of the article stated that the trainees "are paid an allowance equal to their supplementary benefit but lose all other allowances because they are effectively employed". In fact, the training allowances are at least equal to the amount of unemployment benefit or supplementary benefit that the trainees receive before joining the scheme - the minimum amount payable being £24 per week, so that trainees who have been receiving less than £24 will in fact receive an increased amount.

All other benefits to which the trainees were eligible before joining the scheme, such as housing benefit, help with prescriptions, dental charges and so on are still payable. In addition to this, the trainees retain their UB40 with which they can obtain needed

rates for entry to leisure facilities and the like.

PAULINE MILLER  
JTS manager  
Grimsby College of Technology

## Training mix

Sir - In your report on the NATFHE conference, one item contains the sentence: "Eight out of 10 places on JTS would be in private colleges such as Sight and Sound and Pitmans, recently criticized by the MSC for their lack of trained teachers."

I would like to state that there is no truth in the statement that the MSC has criticized Pitmans for the use of untrained teachers. For the record,

some 75 per cent of our teachers are qualified and, for the training schemes we run, we have a mixture of formally trained teachers and people with experience of the jobs for which they are being prepared.

Furthermore, all our trainees receive training to update their skills. Many of the trainees attending computer training during the summer, run by specialists.

The MSC spends a good deal of time and effort in checking the relevance of the courses. They would not send us students were not happy with what we were doing.

MARK CPTMAN  
Chairman  
Pitmans Education and Training  
154 Southampton Row  
London WC1

## Nothing new

Sir - I was interested to read the article on the new curriculum (TES, May 29). In balance it pointed out that since the comprehensive review of the curriculum, people have been more circumspect about the

Clearly, Feuerstein is a man and his views are attractive. It is really nothing very new that ability is not fixed, and that third assessments do not solve a child's problems. Most of the curriculum and "comfortable" given. The suggestion that Feuerstein's work enables a broad range of head of department and teachers and psychologists in this area over the years.

Neither does well-organized security bear out the large times made for Instrumental Enrichment. As with most "new" ideas, success seems to be to impute ingenuity but to ignore the need for a solid basis. The lesson that comes from this is that it is borne out by the fact and again in evaluations.

I was invited for five interviews. The short lists for these five interviews comprised 11 women and 15 men. All these short-listed candidates were competent, experienced and suitable for the post. The successful candidates in all five instances were men.

The schools were all maintained, comprehensive 11-18 or 14-18 schools in the Midlands. In three cases, acting heads of department were unsuccessful members of the short list - all three were women.

Debriefing sessions provided some interesting information. Doubts were

## Building an image

Sir - I write with a somewhat resigned sense of frustration regarding the article in the TES (April 10) on the building of the new Institute of Building. This is a place for the female artisan and technician in the industry but there is an even greater and more vital place for the manager and technologist. This has been recognized in the recent report of the Lighthill Committee by one of its pleas for Government pressure to provide more places for building degree courses.

Abundant opportunities in the many fields of building exist for qualified women from design to quantity surveying, to planning and site management to name but a few of the practical

aspects recognized by the Institute as the chartered body for the professional builder.

It is a great shame that the wider aspects of careers for women in the construction industry were not revealed. They are available in many varied and interesting facets. Perhaps the TES will fill the information gap in the future.

N J NICOLS  
Head of membership and examinations  
The Chartered Institute of Building  
Engineers  
Kings Ride  
Ascot  
Berkshire

## March of time

Sir - May I make a couple of points arising from the interesting correspondence (TES, June 5) in response to my article on "Counting the hours" (TES, May 22)?

Paul Farmer believes I am falling into the dangerous trap of ensuring that professionalism will never return. In fact, his model is very similar to mine but, while I wish he was right, I fear he is mistaken in hoping that, having made it, he can then put it away and forget it. John McKellar's letter on the same page makes it plain enough that some teachers are not going to let that happen. The truth, however regrettable, is that we cannot go back to the way it was. We must only go forward to establish high standards of professional performance within the framework of new law

which Mr Baker has imposed.

Laurie Smith's concern for the legal liability of teachers undertaking voluntary activities with pupils is a red herring. The new regulations change nothing in this respect. The key to the matter is the approval of the activity by the head and the local education authority. Directed time is the time when a teacher is required to be available for work. If he/she chooses to work beyond that time, the employer's responsibility is exactly the same as it is during directed time, so long as the activity is approved and does not contravene i.e.a. regulations.

JOHN SUTTON  
Salaries and conditions  
service officer  
Secondary Heads Association  
10751 Paul's Road  
London N1

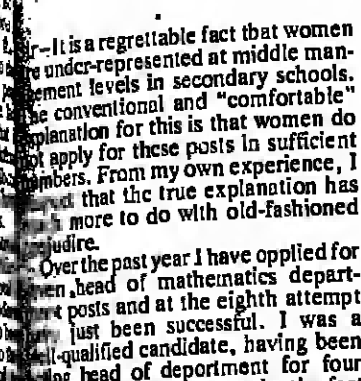
## Singapore view

British teachers tempted abroad wanderlust and the illusion that the grass is always greener on the other side of the world can only benefit from the recent, first-hand information about some of the realities they would face. But Clive Linke's portrayal of education in Singapore (TES, May 29) could actually do more harm than good.

Understand how the average member of the Singaporean educational community will react to the assumption implicit in Mr Linke's article that only Singaporean - and presumably Asian - knows what curriculum content and teaching methods are most appropriate for that country. His

point of view is that of a white man, a white man who is not a Singaporean, and who is not a Singaporean teacher. He is not a Singaporean parent, who sees around him in many parts of his life the standards of achievement, the standards of the pupils' achievement, the standards of the teaching, the standards of the subject, focused on by Mr Linke.

## Prejudice on the panel puts women off promotion



"I THINK WE'RE OUTNUMBERED..."

It is a regrettable fact that women are under-represented at middle management levels in secondary schools. The explanation for this is that women do not apply for these posts in sufficient numbers. From my own experience, I think the true explanation has more to do with old-fashioned prejudice.

Over the past year I have applied for seven head of mathematics department posts and at the eighth attempt I have just been successful. I was a self-employed candidate, having been head of department for four years and this is borne out by the fact and again in evaluations.

I was invited for five interviews. The short lists for these five interviews comprised 11 women and 15 men. All these short-listed candidates were competent, experienced and suitable for the post. The successful candidates in all five instances were men.

The schools were all maintained, comprehensive 11-18 or 14-18 schools in the Midlands. In three cases, acting heads of department were unsuccessful members of the short list - all three were women.

Debriefing sessions provided some interesting information. Doubts were

great success. The lack of knowledge discovered by our representative is worrying and it is hoped that the balance is now well on the way to being redressed.

There is a place for the female artisan and technician in the industry but there is an even greater and more vital place for the manager and technologist. This has been recognized in the recent report of the Lighthill Committee by one of its pleas for Government pressure to provide more places for building degree courses.

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N J NICOLS  
Head of membership and examinations  
The Chartered Institute of Building  
Engineers  
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Ascot  
Berkshire

## Double faults

Sir - In reply to Sylvia Barratt's letter (TES, May 22), the main point that emerged from my study of twins in primary schools was that there was only a limited awareness of the issues that may be relevant and the difficulties that may arise when twins are in the same or in different classes.

Consequently, there must be concern for those twins whose parents assume that the school knows what is best for their children when, in fact, the school may be unaware that there are issues to be considered or has made its considerations on only limited information.

CHARLIE HENRY  
Quadding Road  
Gosberton  
Lincs.

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## LETTERS

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Wolsey Hall Oxford

Wolsey Hall Oxford



## TALKBACK

## FEATURES

## DISTURBED BEHAVIOUR

## A bleak picture

Jan Norbury

With the help of Phil Carradice's article (Talkback, May 29), I have been able to draft a suitable advertisement for a much-needed extra class teacher:

Wanted, a well-qualified and experienced "pump mug" to be "cannon fodder" to a group of children "who are disinclined to learn". Applicants must be aware that "the job of purposeful control involves time, effort and pain". Salary paid one month in arrears if the candidate lasts that long.

One thing is certain, I shall not need timetable-cover to conduct the interviews.

A bleak picture is painted for only teacher of children who are emotionally and behaviourally disturbed if the authority held by the head is not also shared by the staff. Once the children see a whole team approach to care, control and education, then equal respect is awarded to every team member.

There are various ways in which this can be achieved, but all need the emphasis on time and effort rather than "pain". Teachers need a structure in which to have "purposeful control".



and the structure must be the result of consultation, evaluation and adaptation. We have found some of the most effective strategies to be:

- A clear care and control policy which is understood by each child.
- A curriculum which is adapted to suit the needs of each child, with all teachers responsible for one or two subject areas.
- Staff support through timetabled supervision and informal supervision.
- Daily recording of behavioural and educational objectives and achievements which is discussed with the children. (This gives perspective to occasional "bad" sessions.)
- A tutor system whereby the class teacher has overall responsibility for the child's education and represents the school at meetings with parents and professionals.
- Many out-of-school meetings and INSET courses where all staff contribute to school policies.

Perhaps it is time to re-word that advertisement:

Wanted, a well-qualified and experienced class teacher for a group of children who have not experienced success in any other school. Applicants will be well-supported by a hard-working and caring team of professionals in a firm yet empathetic environment. Job satisfaction is enormous when you achieve what previously was deemed impossible.

Must go, as I have to phone the supply teacher to cover for me on interview day.

Jan Norbury is deputy principal at Dr Barnardo's, The Glass School, Wokingham, Berkshire.

## Activity Centres

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## COMMUNITY HOMES

## No real choice

Michael Barton

ity Homes Regulations, 1972, a statutory instrument made under section 43 of the Children and Young Persons Act, 1969. They are run by social service departments, and inspected by the Department of Health and Social Security.

Her Majesty's Inspectors of Schools visit CHEs only by "invitation" of the DHSS, and although HMI reports on schools are published, reports on education in CHEs are not published. Indeed, CHEs remain one of the few types of establishment offering education on which HMI reports are never published: even prison and youth custody centre education provisions are inspected and reports are published.

The results achieved at Chaworth CHE have clearly been very good. It would be dangerous in the absence of published HMI reports, to assume that Chaworth is representative. Marcia Newsome refers to "a non-punitive environment" there, whereas at least one boys' CHE, in the Midlands, was still making significant use of corporal punishment as recently as 1984.

As someone who has worked in both types of provision, I find it sad when professional people divide into segregationist and non-segregationist camps. Both have a lot of valuable ideas which need to be applied in mainstream schools. Some very good work in CHEs remains hidden from view by the non-publication of HMI reports on specific establishments. When I took this up with the DES, they referred me

to the DHSS; I still await a reply.

The three factors for success put forward by Marcia Newsome, a positive approach, high expectations, and respect for each child as a person, are vitally important. They are, moreover, rather more than "rarely" present in mainstream education.

Support services should often help schools to be more positive and it is possible to change the school environment to give children a better chance of success.

Michael Barton teaches in a secondary school.



## INDUSTRY LINKS

## Radio World

John Wallis

and Technician Education Council. The college is soon to begin a bachelor of engineering degree course.

The college has a simulated satellite earth station and telex and data communications. The adult students work with computers and fibre-optic cables and there is a television studio.

The enthusiasm and interest of the principal and of Malcolm Thompson, the schools liaison officer, resulted in six afternoon sessions last year. Each consisted of a presentation, a break for refreshments and a "special". The programme for the year included two sessions each of basic magnetism and electricity, computer principles and telecommunications. The special included: the college and its facilities, satellite communications, television and the use of cameras and colour

mixing, radio communications, a visit to the college museum and a film about cable laying.

The third and fourth year juniors entered into the project with great enthusiasm, showing a level of understanding and interest which surprised many of the college lecturers. The girls and boys were involved in practical workshop activities using computer hardware, word processors, databases and the mouse. Follow-up work is done at school by the children using *Pendown*, *Grass* and *Logo* on the BBC Computer.

The children used the different radio systems, the television cameras, colour mixers and the video control systems on the panel in the studio. The boys and girls explored the use of field telephones, examining a telephone

exchange, explored a variety of international telephones, and simulated use of such sophisticated equipment presented a dream opportunity for the children.

Following the success of the venture, the project has been extended to the current academic year and we are discussing plans for next year. Pupils and teaching staff have both gained much from this industry link. We have gained an insight into the developments of modern technology and how communication is a preserve of economic growth.

We realize that a basic understanding of telecommunications and computer technology is vital to our pupils in their adult life will enter an increasingly technological and "closer" world. We therefore appreciate the interest and enthusiasm of Caldicot and Wireless College which helped us to gain a deeper understanding of the meaning of communication and the concept of "One World".

John Wallis is headmaster of St David's CP School, St Davy, Pembrokeshire, Cornwall.

## INSET

## Smashing the ice

Jeffrey Frankland

mathematics course, and since I have not yet been brave enough to demand an exposition of its rationale, I can only place together the aims of the process: from observation and conjecture.

It seems to me that the principal motive is power. The group leader requires to demonstrate her/his power over the group by manipulating them

into performing a species of party game. The difference being that whereas a party game - indulged in by consenting members of a friendship group - is at once liberating and tending to reinforce the bonds of friendship, this humourless charade has no other purpose than to illustrate the subjugation that the course members have placed themselves in with

respect to the group leader. From this, there is no escape. We are all leader's puppets.

If the aim is less sinister, simply process of getting to know one another, then since we are all pupils of an education system which is the seminar, the discussion and the means of individual response are groups, I along with all the rest of the wherewithal to get up on my feet and say a few words about myself.

This enforced cocktail party without the benefit of cocktails is another matter. It forces one into contact and by promoting those who are adept at instant sociability at the expense of the shy and the introverted. In a way, this is a useful exercise in the relatively socially awkward and made to feel uncomfortable ("I do hate this sort of thing, don't you?")

Every schoolchild knows that one can smash the ice on a pond by jumping in a brick and that the shockwaves will stun the fish. This metaphorical "ice-breaking" feels similarly astrophysical to the participants, although does provide the leader with a stimulus and unprejudiced group to whom he can "do" INSET.

Jeffrey Frankland is deputy head, Caldicot High School, Caldicot, Wiltshire.

But whatever the success of training disturbed children in mainstream schools, there will always be a very small number of children whose lives have become so chaotic that it is only possible to provide them with completely residential care. This is usually due more to the outside of school, such as social pressures, than it is to the school environment.

Such children need, not just education, but also the 24-hour day-a-year care which CHEs provide. The "non-segregationist" who prize such establishments would really want to try, not be able to up the pieces of such children in mainstream schools.

Michael Barton teaches in a secondary school.

## More job satisfaction

When it became clear last year that Buckinghamshire County Council was likely to axe the school meals service, parents and governors of the 100-pupil primary school in the hilltop village of Brill decided that they were not going to take the decision lying down.

Brill school has always gone against the school meals tide. At the beginning of the decade, after a succession of price increases and at the height of the sandwich boom, at least 60 per cent of the children took school meals compared with 30 per cent in the rest of Buckinghamshire.

After every other school in the county had gone over to a cafeteria system, food continued to be served from dishes on the tables at Brill.

Doff Wheatley, a parent governor, told me: "When we heard that the county was proposing to abolish school meals, the governing body and parents made vigorous protest to the local authority." But these protests were not even acknowledged, and by June it was obvious the county council meant business.

So Doff and another parent governor were delegated by the governing body to look into the possibility of retaining a school meals service at Brill.

She said: "Parents were surveyed and were positive about supporting meals. We contacted other counties which had scrapped the meals service. We spoke to private contractors. They all thought that running a service at a school with under a hundred children would be financially too risky."

By September, the county council had announced its decision to scrap school meals after the autumn half-term, and it issued guidelines for self-help groups, making it clear that it would "encourage such ventures, provided that no additional costs fell on the county."

A self-help scheme could not be run unless the L.A. licensed it and the conditions for gaining a licence were so convoluted that "it appeared that they didn't want anyone to do it."

Finally the governors decided to approach Rose Cadie, who had been the kitchen assistant for 14 years, and an ingenious scheme was hatched. Rose Cadie would become self-employed and would run Brill school meals service.

She would employ her assistant, Vera Rolfe, who had just completed 20 years at the school cook and was about to retire. But Rose Cadie did not want to. "Have anything to do with money because I didn't want to fiddle about with that," so parent Gillian Davidson was to take charge of the finances.

The scheme was finally approved by the county council, a licence granted, and the Brill school meals initiative became operative the day after meals to the rest of the county were scrapped. According to Rose Cadie: "It was all due to young women determined that their children should have hot meals."

Under the terms of the licence, the authority agreed to hand over the kitchen and all its equipment in good repair, but from then on, the

## Self service

The village that refused to abolish its school meals



Curriculum spin-offs: producing graphs to record favourite dinners

responsibility for maintaining them lay with the new operators. At the moment they are not charged for the use of the kitchen, but they must be charged for the use of the kitchen, according to Gillian Davidson, has been calculated at 0.016p per meal. The authority also subsidizes entirely those children, teaching and ancillary staff, who are entitled to free meals.

Gillian says the finances are "fairly healthy". The charge for a meal is 75p, as it was under the school meals service. Unlike the local authority school meals service, they make a small profit from the meals to cover the inevitable maintenance costs.

Keeping the cost of the meals down is dependent very much on the goodwill of the community. The local butcher sells meat and eggs to them very cheaply. Locals give freely of produce from their allotments. The dinner money is, of course, collected voluntarily by Doff Wheatley, who, together with another parent governor, does much of the shopping. Gillian Davidson claims an EEC subsidy on the dairy produce, too.

Everyone agreed that, without the experience, expertise and goodwill of Rose and Vera, the school would have great difficulty in running the scheme at such low cost. The cook and her assistant get no such low cost. The cook and her assistant get no such low cost. The cook and her assistant get no such low cost.

Under the terms of the licence, the authority agreed to hand over the kitchen and all its equipment in good repair, but from then on, the

## Consumer feedback

sion. After the children have had their meal, each child places a cube in one of three boxes labelled, "I like this dinner," "It was all right" and "No, I did not like this dinner". Another cube can be placed in similarly labelled boxes for the puddings. Sarah Wood explained that children in the top infant class then analysed the results, producing graphs.

The maths is made even more relevant because the children know that the verdicts are noted by the kitchen staff. Rose and Vera assured me that a complete "thumbs down" would not be served again.

"We give them bread and butter pudding once and they didn't like that. Their mothers don't seem to make that any more, so they didn't know what it was. We shan't do it again."

The previous week's graph showed there had been an overwhelming: "Yes" to fish fingers and chips. One boy was so determined that his favourite meal stayed on the menu that he attempted to sneak a whole block into the appropriate box.

Apart from children's preferences, the cooks must also take heed of the local authority stipulation that meals should be reasonably well-balanced.

Said Rose: "We try to make a balanced diet. Not too much stodgy stuff." The butcher gives them a weekly list of his cheap offers for each day and they work the menus around that. Typical menus include toast in the hole, chilli con carne, roast pork and egg salad.

"We have more job satisfaction," said Rose. "Before, we had to cook what we were told to cook. The only meat we could have was pork or dried meat. Vegetables were always tinned and the potatoes powdered. We had to use powdered milk in the custard. Now the children can have fresh meat and vegetables everyday and we can use fresh milk."

One child made the enigmatic remark to his mother that: "The custard doesn't taste of bananas any more!"

The day I visited, we had a delicious risotto with home-made crisps followed by a blackberry yoghurt. Along with the overwhelming majority of the children, my block went to the "I like this dinner" box.

The Brill scheme is one isolated result of Buckinghamshire scrapping its school meals service. But there is a wider perspective. One of the governors told me that, while they totally supported the school's own service, some of them felt "the county council has abdicated its responsibilities and is exploiting the goodwill, management and time of the people involved."

It was all very well, he said, in a middle-class village like Brill where most children would be well-fed anyway and many people know how to tackle the system and unravel red tape.

"It is the children whose parents have neither the will nor the expertise to organize a meals service in school and who do not have a well-balanced diet at home who suffer most."

Paul Harrison



## FEATURES

## It's fun but is it education?

by Geoffrey Samuel

I read the *News of the World* last week. I found it on my deputy's desk. She maintained that she intended to use it in assembly. Perhaps to give artistic verisimilitude to an otherwise bald and unconvincing narrative.

Anyway, I borrowed it and took it home. Of course I enjoyed it. There were allegations about politicians, innuendos about members of the Royal Family, stories about vicars — and photographs of people, some of them in clothes.

But I looked almost in vain for any facts. Straight reporting, even of cricket matches, was hardly to be found.

It is tempting, if patronizing, to reflect on the consequences of more than a century of public education. A comparison with the first popular daily, the halfpenny *Daily Mail*, is certainly revealing. Even *The Times* has resorted to short paragraphs and an increase in photographs. Why has this happened? Should schools be concerned?

Of course we must accept that schools operate within a given social context. Readers of the original *Daily Mail* had no radio, no television, no competition. Today's popular press exists in a competitive climate. Some might suggest that education should temper that climate. I believe we are doing the opposite.

During the past few weeks I have visited many classes preparing pupils for the GCSE. I have been impressed by many of the new approaches. But I am worried as well. The simulated radio — or television — interview is ubiquitous, the relationship with the world of entertainment undeniable.

It is tempting in a variety of subjects to stimulate pupils to prepare and execute an "interview" with a character from history or from literature. But where is the rigour?

It is possible to stage mock trials or planning inquiries or public meetings. It is fun; it engages the attention and enthusiasm of pupils. But will this establish in the minds of pupils (particularly those in top sets) the mental discipline that advanced study will demand?

Are we even preparing our pupils for the depth of consideration and reflection that mature political judgement requires? If one of the purposes of education is to "stretch", to introduce pupils to new horizons, then the new process-orientated approaches are a dismal failure.

Fifteen years ago, in the heyday of resource-based learning, integrated courses and relevance, I attended a lecture on "raising the school leaving age". The speaker confidently told his anxious audience how he had coped with a group of irreconcilable 15-year-old boys. Exactly half the week was devoted to a motor bicycle. They worked on this machine and, he avowed, "learned from their experiences".

None of us had the temerity to enquire whether this really was our brave new world of secondary education for all. Of course experiential learning has its place in modern education. But I fear that too many teachers of so-called academic subjects are now — metaphorically — devoting the entire week to the motorbicycle.

Not this at all. I recently attended a departmental discussion on the choice of a new textbook for the first three years. They were all expensive. A glance inside told the story.

It was lavishly endowed with photographs, pictures, drawings and cartoons. The actual text — and this book was designed for pupils of all abilities — was kept to a minimum.

So this was what we had before us. An educational equivalent of the *News of the World* for everyone. I do not question its ability to entertain. But I seriously doubt whether this should serve as the only textbook on the subject to be set before the pupils for three whole years.

A recent report disclosed that only a derisory number of teenage boys read for pleasure. They find it "boring". No wonder. Modern novels rarely have the pictures and cartoons that schools, by implication — regard as the *raison d'être* of a book. We are all adherents of Alice now.

Where is it all to end? I do hope that proponents of the new methodology will at least reflect. If we are to produce a society capable of reading and reasoning, willing and able to consider issues in depth, prepared to make an effort to understand — then we must step back from media-orientated education and have the courage to affirm that learning requires both concentration and commitment.

It is not enough to have a headmaster who is a member of the school staff. It is not enough to have a headmaster who is a member of the school staff.



## Together we stand

Jean Abbott and Tony Hurlin describe how a group of primary heads learnt to share their burdens

Low morale has bitten deeply into the work of many primary schools. Insufficient funding and the constant public undervaluing of teachers has placed heavy burdens on headteachers and some of the more severe effects of the industrial dispute are likely to persist for some time to come.

In frequent contact with colleagues and the lack of insight into the work of other schools has left some heads caught up in a growing isolation. They often feel that all their energy is required to keep things going from day to day.

The task of developing and improving their schools, of extending their own vision, and that of their staff, and of creating new and relevant opportunities for their children has, in some instances, virtually ceased.

The Cambridge Head Teachers' Support Group is a self-help antidote for this contemporary complaint. Busy heads have to become adept at trading off one commitment against another — so the group has been a profound success. Judging by attendance at our meetings. All those who joined the group at its inception have stayed on. Several others have asked to join and attendance is usually 100 per cent. Whatever this kind of group can offer, primary headteachers seem to want.

At its meetings, the group has provided opportunities to discuss real school-based problems and the task of school improvement; to work with other professionals as a consultant; to develop ways of visiting and being visited by colleagues; and to enjoy the mutual support of other headteachers.

The idea was first generated during the Schools Council Self-Evaluation Project which began in 1980. Twelve Cambridgeshire headteachers, of large primary schools worked together for three years with a management consultant to develop practical ways of improving their schools. At the end of the project, some of the group decided to go it alone and extend these ideas locally.

An arbitrary limit of 12 members was decided on by two of the original group, and verbal invitations were put round in the summer of 1984. Everyone approached accepted. Four were newly-appointed heads and the others were all into their second headships.

The group appointed a secretary to remind us about dates and circulate the agenda. A lecturer in primary school management at Cambridge Institute of Education was asked to become the group's consultant. He also offered a neutral place to meet, and the twice-termly meetings began.

Originally, there was no chairman. From time to time, the group's consultant would intervene and urge clarification or offer a summary of what had been discussed. More recently, it had for a regular chairman emerged.

The heads' concerns fell into three distinct categories: organizational, managerial and philosophical. The first two were the most common, and the third the least. The first two were the most common, and the third the least.

Members began to bring along real problems for collective analysis — rather uncertainly at first. The idea of speaking openly about professional difficulties did not come easily. Some of the group wondered why — and concluded it was lack of practice.

All the schools were known to all the members to varying degrees. It was, all agreed, an often uncomfortable direct experience but none were deflected. As one head put it: "If we can't be honest with each other, I can't see a reason for this group."

Everyone recognized the need for professional confidence and sometimes codes were used to appeal for it — "I hope the group won't let me down on this" or "In telling you this, there is clearly some risk".

As time passed and as personal knowledge of each other grew, the meetings became characterized by a gentle, probing humour — a sort of professional sparring — a little provocative but really harmless. The real test would come when heads made visits to each other's schools which might reveal something fundamentally wrong.

How would they communicate this? What would the head say when staff asked: "What did the visitors think?" Would an opportunity for professional growth and development built over months be allowed to slip away?

There had been talk about the possibility of paired visits to each other's schools — but it was only talk. The heads suspected potential hazards and skirted round the issue. Industrial action caused problems and provided a real excuse for delaying the visits.

Later, some of the group were to confess that they felt "junior" in status and less experienced. They felt they were simply not competent to judge the schools of colleagues who seemed to be older and wiser. Anyway — how should a school be judged? How can a valid assessment be made on an impression? Is a morning really long enough?

This impasse needed real push from within, not because the heads were unable to take criticism, but because they were professionally unable to make it. The apparent unwillingness was largely an unwillingness to say something hurtful or upsetting — the pain of the truth being felt by the giver rather than the receiver. Who had taught them, or prepared them for this fundamental leadership activity? What were the implications of this? The heads' concerns fell into three distinct categories: organizational, managerial and philosophical. The first two were the most common, and the third the least.

to be learned after what was for some, many of headship?

Failure actually to communicate with other led to one confession: "But I wanted to say something damning". A carefully disguised criticism is very often open to misinterpretation. Is something wrong? Is it wrong but won't be?

After a year, there had only been three visits. No formal reports had been written and school had yet been the focus of a group meeting.

The decision taken, we went in pairs — mutual support being needed more for the visits than the visits. The heads hoped to gain a perspective and then reflect this back to the group in a supportive critique. The group has grown a total commitment to "critical friendship".

Regular visits to schools now take place followed by discussions within the whole group which are sharpened by written reports. The ground is broken at all meetings with some sensitive issues up front.

An early decision was taken to involve external speakers into the group. The idea was to counter the spirit of introspection which some self-help groups so self-obsessed that they lose sight of their original purpose. On reflection, it merely proved to be a mutually self-avoidance strategy. The venture was unsuccessful. Time was best spent talking, looking, telling back as openly as possible; we refused afterwards.

The group's strongest asset was the collective knowledge and experience of 12 headteachers who were determined to improve their own schools through self-support without any real knowledge of the way it might be done. There was something in our tradition, it seemed, which prevented activity from occurring. Communication at the level had not been thought to be a necessary desirable professional skill.

Responsibility for future development lay within the group itself. There is no obligation on any other organization or individual. There is no external inspection of the groups' work. The group has no mandate to evaluate its work or to change its direction.

The future lies in the group's ability to respond to the changing needs of its members. A headteacher can only justify time spent in the group if there are observable benefits to his schools and to each child within them.

Can its work be replicated, or is it a one-off idiosyncratic response to a temporary set of circumstances?

If others are to adapt and develop these principles and work together towards a global self-development, then the remedy must lie within the patients' own control. There is no need for purgatives or surgery. Self-help has always been best.

Jean Abbott is head of Mayfield primary school, Cambridge, and Tony Hurlin is head of St. Michael's primary school, Cambridge.

## PUPIL REACTIONS

Maths is interesting when... the teacher does not go "waffle, waffle, waffle... page 64, exercise A, B, C, D". It's difficult in this class because we don't just do routine work, we practise something important — thinking.

The bottom set does all sorts of interesting things and they find out lots of information and I feel so sorry for the top set because they have to copy pages and pages of work out of the book.

I think it gives us a very good chance to do better. I like it because we are our own boss and we are much more independent. It is much better than staring at the teacher for a lesson or two.

When I done pages and pages of work I used to hate and dread going to the lessons. Now I like maths because we solve things.

The reason I enjoyed it is because the beginning of the work may have been set but then you had the freedom to work on the subject as you wanted to. The thing I learnt most is how to use, and the meaning of, mathematical terms — for example, the decimal point and fractions.

I think I have learnt that the more you find out there's always something to go on to.

Down our old school we always did sums and you don't really find a lot out in sums.

I used to be terrible at maths. These lessons have given me much more confidence and now I understand things better. If somebody gave me a maths problem, I would investigate the problem and I would be able to work it out.

part of a continually growing network of working groups involved in improving pupils' achievements, attitudes and confidence in mathematics. Although initially concerned with the bottom 40 per cent, teachers involved with LAMP soon found that the strategies they were adopting in their classrooms were improving the attainment and confidence of all the pupils they taught, including their sixth-formers. For, despite having good examination results, many pupils are underachieving because they are unable to transfer and apply their mathematics.

LAMP's success has led the DES and 34 local education authorities to fund a further three-year project, Raising Achievement in Mathematics Project (RAMP 1986/89). This aims to deal with the general problem of underachievement in mathematics throughout the age and ability range.

At present, the education system itself is underachieving. If we want to raise the level of educational provision in mathematics, we must develop the professionalism of teachers, their confidence and their expertise, as ultimately they are the only people who can directly effect improvements in the quality of children's learning experiences.

LAMP found that through teacher development, pupil attainment and competence can be raised.

When groups of teachers have come together, raised, enabling them to meet the needs of a modern society. In all 34 of the RAMP participating authorities, there is a commitment to continue LAMP's emphasis on teachers being actively involved in their own professional development.

It is becoming more readily accepted that children learn mathematics effectively through experimenting, questioning, reflecting, discovering, inventing and discussing — a kind of learning which requires a minimum of factual knowledge, a large element of challenge and a great deal of experience in dealing with situations using particular kinds of thinking and practical skills.

## New LAMP for an old problem

Frankie Sulke and John Mitchell describe the approach to teacher development that brings maths to life



well-motivated departments, these stand little chance of achieving national curriculum change because they become detached from the original source of inspiration.

LAMP's experience shows that, without personal involvement, attempts to provide schemes, reports or guidelines on the teaching of mathematics are very likely to be misinterpreted or ignored. Even though the materials teachers use in the classroom may change when they adopt a new scheme or change examination syllabus, their approach and their pupils' mathematical experience will be essentially the same.

For all these reasons, the crux of LAMP's and RAMP's dissemination strategy is personal contact. Within LAMP's six local education authorities, we have already seen the power of such contact in the form of a variety of teacher working groups.

The focus provided by the project has enabled connections to be made between the various groups. They draw and feed from each other, and together they form a powerful and ever growing support network.

The organic nature of the LAMP network ensures that the type of detachment described earlier can never occur. Its growth depends on the teachers within it. They feel they want to share their successes, but they are not disseminating a set of materials, nor even a set of ideas.

## TEACHER COMMENTS

One of my main aims is getting rid of fear — fear of asking questions, fear of "getting it wrong".

We are preoccupied with relevance... I believe relevance occurs if the student is interested in what he or she is doing.

The pupils have started taking more responsibility themselves for what we do in the classroom.

I know that unless my thinking about mathematics teaching had been changed... without a revolution in my philosophy... none of the changes which I am now trying to effect in my classroom could have come about.

If I had merely tried out new methods on somebody else's recommendations, then in the face of difficulties I would just drop the ideas.

It has made me question every aspect of my teaching, including things that I thought I was doing well. This has been quite traumatic but essential.

All too often people look at pupils' work from other teachers and say "Mine could never do that." This co-operative teaching has been an opportunity to see (your) own pupils enjoying and getting involved in mathematics... producing work (you) never thought they could.

Surrounded by more able mathematicians... I have become more aware and sympathetic, having experienced the feelings of inadequacy myself.

Apparently quick and easy solutions are not going to work.

They are, instead, involving more and more teachers in a way of working together that enables them to develop their own strategies and hence become more confident and competent in their classrooms.

Dissemination of this kind is not easy or quick, but it is effective and long-lasting, because it is firmly rooted in the personal experiences of teachers in their classrooms.

Teachers do not view their own development as a fact that will disappear, along with all the others, because their beliefs about learning and mathematics have changed.

To invest in people is always costly in more senses than money. But it is the only basis for improvement in the quality of mathematics education.

LAMP was based at the Mathematics Curriculum Development Centre, West Sussex, Institute of Higher Education, Upper Bognor Road, Bognor Regis, West Sussex PO21 1HR. It was directed by Aziz Ahmed, a member of the Cockcroft Committee, and 12 teachers were seconded for one day a week for three years to work on the project. A report is due to be published in September.

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# Review



"... the long and tedious maxims of druidical religion..." (Lemprière, *Classical Dictionary*, 1828.)

A contributor to *TV and Schooling* (1985), asserts that: "It may be that a new emphasis on language teaching would transform thinking about where the sites of language are; from the present almost exclusive print-dominated media, like novels and other forms of print-publishing, to audio-visual media like cinema and television."

This statement (leaving aside, for the moment, the implications of "exclusive" and whether it is a misprint for "exclusively") illustrates a paradox of literature on the audio-visual media. Not only do theorists of visual communication contribute extensively to "print-publishing", they also readily use literary terms: "visual literacy", "alternative readings", "texts", "narratives", "rhetoric", and so on.

If David Lusted did intend to describe the printed word as "exclusive", he was probably suggesting that it reaches a smaller audience than television or film. Any conclusion from this is debatable; what is clear is that a large body of writing on communications and cultural studies, and most strikingly on popular entertainment, is not addressed to the audiences for literature or the visual media. In fact, its language deliberately restricts the circulation of critical theory to a small

**They show a special fondness for the verb 'to construct': the architectural figure is the temple of the Druidic mind**

clique of initiates:

"A further elaboration of the post-Althusserian position, popular within film studies leads to its elaboration of a theory of autonomous discourse effectively to an evacuation of the field of historical materialism, whatever its materialistic rhetoric, placing its determinacy in the last instance on the unconscious as theorized within an essentially idealist, indeed Platonic, problematic."

To which, in what may be a moment of self-criticism, the author adds: "Such idiocies need detain us no longer." Anyone familiar with the field will recognize these as the pure accents of Druidic, the dialect of media, film communications and cultural studies. At first glance, this kind of writing might be mistaken for jargon, or shorthand for expressing new concepts in a technical discipline. But that is not the case.

As we have seen, for the majority of readers, their acquaintance with the [James Bond] novels was mediated by their prior familiarity with the films, suggesting that the films constitute a determination that must be taken into account in assessing their relationship to, and mode of, reading the novels. This entails a more complex construction of the relations between the films and the novels than is usually implied in analysis. Thus, derived from some pre-existing fictional sources, normally such relations are construed as transpositions.

What this means is that most readers come to their reading of the novel after having seen the film adapted

## Deep Druidic lore

**The 'media studies' priesthood have done what self-appointed priesthoods always do, throwing up mystificatory smokescreens round their pretentious activities. Robin Buss penetrates the grids of intelligibility and the imbricated narrative tensions**

ions, so their understanding of the books is influenced by what they have seen in the cinema. Such a bald translation might be adequate for the audience of *The Spy Who Loved Me*, but this audience is not the one addressed here (any more than when the same authors describe a Bond villain as "a phallus articulated to social, political and sexual deviance"). Druid speaks only to Druid.

"The Profound mysterious Theorems of that learned Sect, how'd in the choicest and most elaborate Language of the time." (Henry Rowlands, *Monu Antiqua Restaurata*, 1723.)

The authors of *Bond and Beyond* are no novices in the use of the dialect. Of course, they do have a smattering of jargon words, contrasting intertextuality with inter-textuality, and distinguishing both from Pierre Macherey's notion of intertextuality (with a pedantry not extended to the proof-reading of their manuscript or the elimination of two references to "Laurence of Arabia"). However, what identifies their work as Druidic is not the shorthand of jargon, but the particular use of such terms as to mediate, to constitute, to entail, to articulate, to constitute as (e.g. "the constitution of a text as literary", for which they discover the neologism *literarisation*) and to organize (usually with a non-animate subject, as "a text organizes its reading").

They show a special fondness for the verb to construct: the architectural figure is the temple of the Druidic mind. Its space is marked off by hallowed legends: *insidelapside*, *foregrounding*, *postfiguring*, *subsuming*, *closure*. "Problems of knowledge" and "ideological positions" are constructed. There are "narrative constructs" and we meet "the feminine subject constructed by romances". This architecture is complemented by the "terrain" around which "cultural business is transacted", to make "a grid of intelligibility", "a network of cultural and ideological concerns" and "frameworks of inter-textual reference", leading to "ideological articulations" and "imbricated narrative tensions".

The hopelessly mixed metaphor is a constant threat (though rarely seen as such). "This chapter has intended to argue that the moment of threshold in popular entertainment has been turned away from speaking for oppression by the centrifugal forces of national consensus, which then represent their interest and we find an improved condition of life with a new cultural loss. Paradoxically, this process has been begotten, not born."

The symbolic nature of all language can hardly excuse moments of threshold being prevented from speaking through negotiated processes by centrifugal forces of consensus. But that is not the point. The supposed virtue of this lies not in its comprehensibility, but in its difference from the analytical, discursive prose of the "dominant ideology". At no other time and in no other discipline laying claim to academic respectability, would it be possible for a writer to be taken seriously when referring to:

"... a powerful system of patriarchal authority consisting of immensely convoluted male/middle-class/white/knowledge/television/consumerism/important/dominant/objectivity equations." To evade the power of Imperial Rome, the Druid retreats into the impenetrable thickets and sacred groves of Druidical discourse.

"... the druids, who lived together in colleges or societies, after the Pythagorean manner, and philosophizing upon the highest subjects..." (Hugh Blair, *A Critical Dissertation upon the Poems of Ossian*, 1793.)

The book quoted above is called *High Theory/Low Culture*. Ostentatiously rejecting the distinction between "high" and "low" culture, academics in the field of media studies turn their attention to the Bond films, to soap opera, to game shows, to *That's Life*. They even, ostensibly, reject the distinction between "high" and "low" theory: several recent studies record, in extensive transcripts, the views of "ordinary people" about the television programmes that they enjoy.

The language belies this blurring of cultures. "Set in this context [of an overdetermined (or multifaceted) theory of causality]", we read, "this couple's responses are of considerable interest. The woman explains that she watches *Miami Vice* because of the positive correlation of 'preference' and 'availability'."

Hang on. What did she say? "*Miami Vice*—yes I watch that a lot. It's quite a good one, that is, and it's on at a time when I'm usually coming in, so I can watch that." Conversely, she doesn't watch *Crossroads* because of the negative correlation of these same two factors.

The writer, condescending to describe such opinions as being "of considerable interest", transcribing them with the hesitations of speech (um, ah, well, so, you know, when I watch that, I like it, for better, interesting, I like it, I

language of the Druidic elite.

These writers are not to be confused with others, also in the field of media and cultural studies, who need complex language and terminology to express complex and novel ideas. The Druidic tongue is aimed at the presentment of the elite; it is a pose, giving an appearance of profundity; it is, in the worst sense, rhetoric. Language of mystification, not of debate.

"Such a valuation suggests that a disturbance of the system can be achieved chiefly through the intervention of invention—this with some deliberation of how the elements of difference figured within the overall dynamics of the system of representational history or the system of narrative of which they are a part."

And that is a quotation from *Screen, a Journal of the Society for Education in Film and Television*, an institution for the promotion of media studies in schools and colleges. Media education is the first area to suffer this contempt for language as means of communication. Three of the English and Welsh GCSE examining boards offer syllabuses

**These writers could hardly express their contempt for the 'exclusive print-dominated media' more graphically than in their inability to use print**

media studies; and they cannot agree on the fundamental question of the language of a discipline, on whether students should express themselves in their own words, or use technical terms debated by their association with the language of writing I have quoted.

Those quotations represent a norm, not exceptions. There are few books likely to be any use to the classroom teacher or to the parent reader in a field where abstraction of language is seen not as a necessary evil, but as a guarantee of authenticity. These writers could hardly express their contempt for the "exclusive print-dominated media" more graphically than in their inability to use print as a medium for the communication of ideas. As the sites on which Druidic discourse is "constructed" become increasingly inaccessible, so the theory itself is reduced to the dimensions of an architectural folly, with disastrous results for the cause of media education and media studies.

David Lusted, "A History of Suspicion" in *TV and Schooling*, BFI, 1985.

N. Garman, "Contribution to a Political Economy of Mass Communication" in *Media, Culture and Society*, Sage Pubs, 1986.

Tooy Bennett, Janet Woolcott, *Bond and Beyond*, Macmillan, 1987.

Laura Mulvey, "Melodrama in and Out of the Home" in *High Theory/Low Culture*, Manchester University Press, 1986.

Bill Lewis, "TV Games" in *Television Mythologies*, Comedia, 1984.

David Morley, *Family Television*, Comedia, 1986.

Barbara Kilgus, "Cultural Studies and the Media" in *Screen*, Vol. 24, 1983.

## The last Puritans

Brian Morton on the critical freemasonry of American studies

*The Unusable Past: Theory and the Study of American Literature*. By Russell Reising. Methuen/New Accents £6.95. 0 416 01321 X.

American literature can seem as seductive as the raw green breast of the continent itself; and so it has proved. United States history covers a scant 200 years and American writing (for all the massive proliferations of the nuclear age) still manages to look like a graspable whole. There are no dark passages back to Browning and Chaucer.

There is, though, a prevailing conviction that American literature is of a piece, all of it in some discernible way linked with "America" itself and thus more readily decoded than class and convention-ridden English literature. Inevitably, this is no more than a comforting myth, set at some remove from the facts. The critics' effort to construct what Van Wyck Brooks called "a usable past" has been at the cost of rendering much of American writing precisely unusable.

Russell Reising has set out to show that "American literature" (the universal subject rather than the actual body of American writing) is a highly artificial and exclusive construct, limited to a tacitly agreed roster of great names and ruling out of consideration work and artists that do not conform to a particular political formula.

Anyone who has waded into American literature teaching will have felt the strong current and undertow of big "themes". These come in the main from a constellation of critical studies

which have become almost as important as the imaginative texts themselves (thus confirming Tom Wolfe's sour prediction that the art gallery of the future would display nothing but framed, glazed reviews).

No literature—except, ironically, Canadian—is so dominated by theories about itself. It is hard to resist picking a syllabus (or teaching a class) that does not even unconsciously reflect the influence of one or other of the critical orthodoxies and so constrains appreciation and understanding.

Books like F O Matthiessen's *American Renaissance* (1941), Richard Chase's *The American Novel and Its Tradition* (1953), R W B Lewis's *The American Adam* (1955), Leslie A Fiedler's *Love and Death in the American Novel* (1960) and Sacvan Bercovitch's *Puritan Origins of the American Self* (1975) have begun to enjoy publishing histories worthy of "classic" texts. They hover so shadowingly over literature courses that it becomes impossible to read any great literary work—be it *Moby-Dick*, *Huckleberry Finn*, *The Plowman* or *The Scarlet Letter*—except in their shade. Worse, it means that students are unlikely to be exposed to anything outside their narrow canons or to believe that their "coverage" is anything but comprehensive.

As Reising demonstrates, such theories tend to follow certain trajectories: the idea that American literature in some uncomplicated way "reflects" the distinctiveness of American culture (or, as in Leslie Fiedler, the "American psyche"); the alternative belief that American literature is in its essence non-realist, inward rather than outward looking, thus

prone to fantasy, romance, and highly literary constructions; lastly, that all of American literature can be explained by reference back to the nation's "Puritan origins".

The last is perhaps the most blatant of all. To see America as a Puritan legacy is to confuse a political aspect with the cultural whole. American with the narrowest constitutional interpretation of the United States, and to pass over as unworthy, or at best secondary, anything produced by Catholics, Jews, blacks, Indians and Chicanos, anyone tasteless enough to be born outside New England. The upshot has been a steady ghettoization. Even as these "minority" cultures become institutionalized—black writing, Southern writing, Californian writing—they maintain a dependency on the "Puritan" norm and are treated as incidental to it.

In a careful, sensible analysis, Reising makes it clear that simply adding to the canon—taken feminist, a gobble of Chicano poetry, a look at Scott Momaday's *House Made of Dawn* (the Red Indian novel), a couple of slave narratives—is not enough. What is required is nothing less than a re-examination of the way we assign literary value, together with a renewed awareness of the fact that literary texts merge in actual societies at precise historical moments and under given circumstances, not at some closed meeting of the critical freemasonry. Echoing Norman Foerster, Reising repeats an easily forgotten assertion: that the supposed one-dimensionality of American literature is the fault of American critics, not American artists.

## School trips

*A Critical Dictionary of Educational Concepts* by Robin Barrow and Geoffrey Milburn. Wheatsheaf £55. 7450 01157.

Dictionaries confirm one of life's aphorisms, the one about the journey being very much more rewarding than arrival. How often does the casual lingering over the accidentally-encountered entry capture the imagination with sudden unexpected delight?

And how dull and predictable the mundane confirmation or slight correction which comes when finally meeting the entry which prompted the search in the first place. At such times I sometimes resolve to read the dictionary to discover more gems. When I do I am always disappointed: it is as though dictionaries have an untamed quality which is elusive and unpredictable.

Robin Barrow and Geoffrey Milburn, however, have not written a dictionary at all. It is a self-confessed selection of educational concepts chosen to illuminate the issues for the educational philosopher, sociologist, classroom researcher and educationalist.

It still retains the quality of delightful surprise as you encounter an entry while browsing en route to your real goal; and it has the added spice of not attempting to be neutral. Each

concept is explored for its imprecisions and the more extravagant claims of its proponents. In consequence there are frequent salutary correctives for slack thinkers like myself.

I grabbed the book first to find out all I could about "tests", but was driven to "assessments" and beguiled to "basics", "core curriculum", "common curriculum objectives", "developmental theory", "child-centred education", "learning" and "teaching". I learnt a lot in that first journey although not enough about the limitations and dangers of standardized tests which had been my original objective. Like all good reference books, however, there were sufficient pointers to complete the quest by reference to the selective (sometimes too much so) further reading at the end of each section.

These short further references combine to form a bibliography which is a cornucopia of potential further stimulation. (There are, however, some surprising omissions—no reference to the work or writings of Boyer,Sizer or even John Goodlad. No sign of David Hargreaves on this side of the Atlantic either.) In fact the book claims to be international but is mainly transatlantic; sometimes it falls uneasily between the two systems as different

hands use slightly different terms for the same agency, eg "local authorities", "school boards", "jurisdictions". But that is to civil, and I'd never have noticed if the book, like all by academics, didn't make me aware of my logical limitations.

The book's system of heavy-typed cross referencing proves enticing so that, unlike most dictionaries and encyclopaedias, you are drawn on the succession of magical mystery tours, the better to understand the general field and its particular features.

The dictionary will be an indispensable addition to the libraries of all teacher-training establishments whether in colleges or universities, a must for teachers' centres and wherever principals, administrators, headteachers and advisers gather for in-service training—particularly in the UK, the US, Canada, Australia and New Zealand. It ought to be a corrective reference book for secretaries of civil servants and their international counterparts whose love of correct spelling and basic standards of achievement for others doesn't often extend to rigorous examination by themselves of their own ideas or to consideration of the evidence of the educational philosophers and researchers.

T R P Brighouse

## Trailing clouds of technicality

*Wordsworth's Historical Imagination: The Poetry of Displacement*. By David Simpson. Methuen £25. 0 416 03672 7.

Following the work of such critics as Hartman, McGann, and Barrell, David Simpson's monograph seeks to show the complexities and ambivalences of Wordsworth's social and political thinking, proposing him as the poet of displacement and alienation, and arguing against the oversimplifying myth of the poet turned revolutionary. There is, he

claims, "no simple unitary public Wordsworth, a persona masterfully commanding the kind of tried and true view of the world that might respectably make possible an efficient habit of self-endorsement, and self-consolidation."

As is evident from the tone of this quotation, Simpson has been influenced by the further reaches of French post-structuralist theory, and the worst of it is a tendency to dress up simple matters and familiar ideas in swaths of qualification and technicality, technically, the less he says the more he introduces about its premises and procedures, for instance,

is excessively portentous and even somewhat patronizing—surely intelligent readers of Romantic verse no longer need to have it explained to them quite so earnestly that Wordsworth is not only the poet of Nature and Imagination, or that his vocabulary represents an uneasy dialectic between High Millstone and other types of poetic discourse?

Aside from this manderin-bombast, there is much of interest here, however, including a chapter on Wordsworth's agrarian idealism as more a negative criticism of urbanization than a positive affirmation of rural values, as well as some intriguing pages dealing with contemporary legislation against vagrancy in relation to poems such as "The Old Cumberland Beggar"; he also draws attention to some important neglected texts—from the two-verse "Epistles" to the epic "The Excursion" and the "Prelude".

Rupert Christiansen



Etching by Robin Tanner from *Wiltshire Village* by Heather Tanner (Impress Books, £5.95), a detailed and unsentimental portrait of rural life, first published in 1939.

## Narrative teasing

*Close Quarters*. By William Golding. Faber £9.95. 0 571 14779 B.

I am not one of William Golding's devout admirers, but I have enjoyed his shaping of story, invention of fable, and play with language. In *Close Quarters* his powers, like his characters, are cramped. He is attempting two difficult acts of narrative, in writing a sequel to *Rites of Passage* and continuing an experimental semi-pastiche of early 19th-century English.

*Rites of Passage* included a hint of continuation, and this novel forecasts a successor. Like the middle child, the second member of a trilogy is in danger of losing identity, being neutralized by middlebiness, neither eldest nor youngest, beginning nor end. Narrative sequences are hard enterprises, and at their best have consisted of works which are members of the larger form, and—only partially, transiently, and deceptively—Independent narrations. Trollope's sagas and Joyce Cary's neglected trilogies are distinguished examples. *Rites of Passage* is both a necessary and a shadowy matrix within its offspring.

I can't imagine readers who don't know the earlier novel making much of this one, which constantly refers back to characters whose destinies began or were finished in its predecessor, and which rely, consciously or not, on dense particulars vividly established in the field and its particular features. The dictionary will be an indispensable addition to the libraries of all teacher-training establishments whether in colleges or universities, a must for teachers' centres and wherever principals, administrators, headteachers and advisers gather for in-service training—particularly in the UK, the US, Canada, Australia and New Zealand. It ought to be a corrective reference book for secretaries of civil servants and their international counterparts whose love of correct spelling and basic standards of achievement for others doesn't often extend to rigorous examination by themselves of their own ideas or to consideration of the evidence of the educational philosophers and researchers.

Not only does it not do certain things again, but it lacks renewal of character and action. The narrator, Edmund Talbot, underwent a growth and change of heart in traditional fashion,

and like the Ancient Mariner, whom he doesn't really resemble, now tells his story in a slightly sadder, maybe wiser, way. In *Rites of Passage* there was a dual narration, Talbot's burden being shared by Colley, the humiliated person whose shocking death thrilled Colley and converted Talbot. Colley was an intense and poetic writer, and with his death colour vanishes from the prose. We are left with the stiff and lumpy sentences of Talbot, whose lack of any mastery of the period's periodic style, intentional or not, deprives the language of a teasing function. Stylistic imitation can be marvellously muted, as in Thackeray's *Henry Esmond*, or wonderfully idiosyncratic and strange, as in Joyce's *Ulysses*. In Golding's new novel it is half-hearted and flat.

This middle story sets out with an expressed anxiety of continuation, seeking a subject and having several imposed upon it. One is a genuine source of tension and pattern—the story of the ship's encumbrance of weed and the crew's dangerous efforts at extrication. Another is as superficial as to be puzzling—the love-story, or its beginning, in which repeated invocation of *le coup de foudre* only serves to stress the absence of any rendering of passion's thunder and lightning. Golding has always been better at doing the defects of loving than its satisfactions, and Talbot's voracious career, replacing with romantic desire what was bizarrely isolated last in the first novel, lacks all innerness. It may of course be a mere beginning, to be developed in the last part of the trilogy. We have to wait for this, too, in order to get the end of the ship's adventures, and comprehend Talbot's survival.

Absence is critically fashionable, so we mustn't lament the story's unended ending, but it struck me less as an experiment with the reader's response than a satisfactory exercise in narrative teasing. To be obstructed in the act of critical complaint might have been fascinating if the novel itself had been more arresting.

Barbara Hardy

## PAPER BACKS

There is an element of myth in most of the 16 stories in *Apirana*, Taylor's *He Rua Aroha—A Hundred Leaves of Love* (Penguin, £2.95), a first collection by a young New Zealand writer. They range from long stories about the natural world to brief sketches evoking the loneliness of a Maori boy in the city, dialogues between animals and a prose-poem about a children's game.

Writing in English, Taylor shows nostalgia for his Maori roots and his stories have, inevitably, a political dimension.

The Auckland writer Herman Charles Bosman (1909-1951), also

chose the medium of English to convey the dry humour of his narrator Oom Schalk Lourens, the setting of the Groo Marico region and the atmosphere of prewar South Africa.

Robin Buss

## BASIC NUMERACY

—a new book by Vicki Burge. Plenty of well-illustrated practical information for helping children with maths difficulties. Order from Arden Dyslexia Centre, Farnham, N. Farnham, Surrey GU10 3BW. Tel. Farnham 2400.

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ARTS

Radio

# Our generation

"The people who had nothing going for them at all went in for politics. Thus a young Edinburgh graduate dismissed those of his contemporaries who might be the stars of *Election Calls*, *Election Platform* and *Party Election Broadcast* yet to come. His comment came in probably the most honest programme to be heard in this last election talk-fest. Called *The Radio 4 Generation*, it featured the opinions of one hundred representative young people aged 18-22 (not the age group most often thought of as the Radio 4 generation but perhaps the title is just another brave attempt at mould-breaking).

Under Nick Ross's sympathetic questioning and protected by the anonymity of radio, the participants were disarmingly frank. Over 10 per cent of the group were on the dole; all but one of these "did a bit of work on the side". A very large number admitted to having, at some time, indulged in gay sex. Hurd to imagine such matter-of-fact candour being possible in any other medium.

The programme had other revelations. Over half the participants seemed to accept the present level of unemployment as part of life; we heard how the south-west is being invaded by northerners in search of holiday jobs; of the growing victimization of blacks as well as gays for being "the cause" of Aids; and of how only half the group expected to be married in 10 years' time. We also heard the answer to the question, "Do you feel patriotic?" A fervent "No way".

Radio 4 intends to record the changing views of these young people up to (and after) the next election. If the packaging of this first so-called cum-gress was slightly pretentious, then

that may seem far from the case in retrospect. This format must result in a fascinating chunk of popular yet thoughtful sociology. It was also cheering to hear so many young people speak so firmly of their moral obligations and yet so tolerantly - even if the programme had its darker bursts of racism and resignation plus a bleak conclusion. Nick Ross asked his gang to indicate if they thought their lives were going to get better over the next five years. "Very, very few" put their hands up.

In complete contrast, the same network came up last weekend with one of its more whimsical features. In *Blow-Suck*, Nick Baker celebrated the mouth organ. It included yet another spoof *Mastersmind* but Baker also happily evoked those days when every lad seemed to have a fluff-filled harmonium in his back pocket. He brought us other facts. It appears 11,000 mouth organs are made each day; the Musicians' Union still regards it as a toy and not an instrument; most people seem to think its main use is for playing the *Dixon of Dock Green* theme and you can tune it by dunking it in a pint of beer.

This weekend Alistair Cooke ends us his 2,000th Letter from America (R4 tonight, 9.30pm; repeated Sunday 9.15am) and at 12.10 on Sunday he is the guest on a world-wide phone-in. Tomorrow's *Saturday Night Theatre* might be worth trying: To See Ourselves by Ivor Wilson is about a radical, popular, dynamic lecturer in a northern polytechnic. When a friend from his Oxford days is appointed as the poly's director, "the job he loves turns into a nightmare".

David Self

## It Comp

Competition No 89. Report by Polyphemus. You were invited to compose rhymed, alternative poems which explored the passions aroused by the pupil/teacher relationship, and you responded with some remarkable stuff. There was quite a quiverful of rather unfocused hatred and also much makeshift calf-love of desirable women teachers. "I sits and stares up Miss's skirt, / And hopes nobody knows / How my hard heart goes bump-a-bump, / When she her knickers shows", (the production of not one brain but two) earns John & Hazel Stanley five pounds to share, although I was seeking something that raised its sights a little higher. Anne Norfolk found a good idea in her conceit of "miss" who "took my bit of blotting paper to wipe her precious pen" but the poem did not sustain; (£3 to her). And £5 to Russell Lucas who in a spirited final tercet addresses the "lout who launched a thousand lines" as follows:

"I wish you well, some Chinese torture, chains, Pox, pestilence, purgatorial pains, A final flush along misal drains."

D A Prince and Sylvia Fairley were unlucky not to be among the winners. I was particularly impressed with Mr McEvoy's technical accomplishment and with the delicate power of Susie Frail's enigmatic piece; £10 each to them and £8 to the others printed.

A sultry afternoon in June - full of Friday frownsness: Heat-hatched, we sat and stewed - nearly dead with drowsiness.

Pelham Humphrey, teacher to Henry Purcell, earns himself a place in the Oxford Studies of Composers series (by Peter Dennis, Oxford University Press. £14.95 h/b. £6.95 p/b) by virtue of a comparatively limited output of anthems, court odes and theatre music. PD

The chap who tried to teach us Trig was ill; and so this guy Was bunged into the breach, poor sod. Most teachers tagged "supply" Are memorably unmemorable - but this one wasn't. Why? (So much of school has faded, fled; Is shredded, sopped and sieved) He somehow, subtly, shed a sense of how life should be lived. Some secret lode he left - in limbo unconspicuous; A something so definitive and yet so undefinable. Andrew McEvoy

Scruffy Sid, next to, of course, school I loathe you, loitering in the loo, Bully, bungler, the classroom fiend, Cunning leader of a cowering crew: The fag-stained fingers and foul breath.

The leering and lecherous features: May the devil design an early death And a painful pox on all such teachers. Jack Whitehead

Hey, Miss, you've had your hair highlighted; It's groovy, grey is really great. Your mini's mint, we're that excited, We waved as you went in the gate.

Four V, that load of vicious vandals Bumt books at break, we got the blame. And, miss, you know them new suede sandals? Well I've saved up for some the same.

Oh, Miss... wait! Alanna Mac Confessions of an Aged Classics Master. Oh, jumping Jehosophat, Jesus! The lustrous blue sheen of your closely cropped hair, Your ear rings, bleached toenails, your stencilled tattoos, Your snarl as you promenade Nutrient From some quivers and quavers, You loil in my lessons, my last, strangely, stride.

Oh cruel caprice, to have had my Sedulous young skinhead whose is the old Phil Carme.

You paused upon a page: Your voice was raised in rage, You stood, as on a stage.

Our gaze was as through gauze, Such quiet had a pause, It gave us, passion, pause.

We heard your heavy heart, It pulsed our peace apart, Your silence made me start. Sue Fra

Competition No 91. Set by Syle. It is usually regarded as "time to go" inanimate objects human feelings. I caught a Sheraton chair set in deep waiting room have feelings? You've invited to imagine the feelings of a precious object set in an utterly familiar setting. Up to 120 words of lines of verse please by July 1.

## Softly speaking

Chekhov. By Henri Troyat. Translated by Michael Henry Heim. Macmillan. £14.95. 0 333 44141 9

"You are colder than the devil with people," remonstrated Gorki in a letter to Chekhov. "You are indifferent to the fate of man." In his *Reminiscences* Gorki wrote: "I think that in Chekhov's presence everyone felt in himself a desire to be simpler, more truthful, more oneself." And almost any retelling of the familiar but still intensely moving story of Chekhov's life has the effect of making the reader want to be simpler, more truthful, more himself.

Endlessly forgiving towards the bullying and sanctimonious (either, a grocer who beat him and made him work in the shop, Chekhov studied medicine so that he'd be able to support the whole family - remonstrating parents, bibulous brothers and suffering sister. As a doctor he never refused to treat patients who made no attempt to pay him; and, already gripped by the tuberculosis that made him look 60 when he was 40 and killed him when he was 44, he gave six months to a punitive journey across Siberia to observe life in the convict settlement at Sakhalin off the Pacific coast.

Unfathomably generous and invariably gentle, he was maddeningly evasive with the women who loved him, ruthlessly possessive when his devoted sister had a chance of marrying, and relentlessly self-destructive. He was still in his 20s when he started haemorrhaging, and refused to take the symptoms seriously. "When there's no blood, I don't worry," though he abominated the idea of living like an invalid, he was full of concern for his convalescing, who pursued him to Yalta in hope of treatment, and he campaigned to raise money for a new sanatorium. "It's so painful," he told Gorki, "to watch their faces as they beg, their pitiful blankets as they die." It took two years to raise the 40,000 roubles that were needed.

Henri Troyat, a Russian-born member of the Académie Française, had already written biographies of Tolstoy, Dostoevsky and Gorki. His *Chekhov* is a more readable than the dry scholarly biographies published by Ronald Hingle in 1972. It is far from being definitive. There is no detailed account of Chekhov's early life, and his going steadily into such official duties

turns as Chekhov's lack of enthusiasm for sexual relationships. M. Troyat fufus us off with facile sentences like "He was not particularly sexual in nature and had little trouble mastering his physical desires. The preliminary to what interested him most in life he saw them as self-sufficient goals." So any further than Chekhov's first biographer Potrenko, who explained the "private existence" would have "bed the creator in him of too much strength and concentration." Really.

Though he provides reference notes for his abundant quotations from Chekhov's letters, M. Troyat is otherwise reluctant to take us into his confidence about his sources of information. He is also complacent about his rather pretentious prose. The end of chapter three looks like a lamental fiction: "And by the time he had moved to the table, there were so many that Anton forgot the man's troubles awaiting him in his 'no existence'. Not long afterwards he visits St Petersburg for the first time. "Leaving out of the carriage that had him from the station to Lelch's house, Chekhov admired the broad, red-lincoln avenues, the almond-green or yellow-ochre Italian facades of the buildings, the cold order, the decorative beauty that represented the antithesis of everything he loved in his chaotic, common old Moscow."

Even if we don't quibble about the difficulty of forgetting the man, we can't help wondering how M. Troyat knows how many they all were. It's paraphrasing something Chekhov wrote? And what about the belated account of the contrast between Chekhov and St Petersburg? It is an interesting summary of something Chekhov wrote or a pseudo-novelistic rumour by M. Troyat about what his best friend felt while he was in the capital? The style of the description is as Chekhovian, and we are allured by the blurb which quotes M. Troyat saying: "When I read Chekhov, it is as though a dear friend is softly speaking to me. Throughout my work in biography, I felt in close communion with him." This assumption of privileged intimacy is dangerous. The biographer feels he is doing so by reminding himself about those quiet conversations with his dear friend.

and I think that M. Troyat's going steadily into such official duties

Television

# Exit stage right

Robin Buss reviews election week...

"I think someone should say that getting a third term is a marvelous achievement": Douglas Hurd (Election 87, BBC1, June 12) seemed to think that the facet had been over-looked. By this time, it was 9.45 on the following morning, and only someone who had been tucked up in bed straight after *The Two Ronnies* or had spent the previous 12 hours pottering in the Mendips could have needed telling that Mrs Thatcher had won an historic victory, or that television was en-chanted with the achievement. Flattering comparisons were made with Lord Liverpool, Tory prime minister from 1812 to 1827, though no one seemed prepared to guess whether the present incumbent will equal his record of 15 years in office, or inspire any literary memorial to her regime as fine as Shelley's *Task of Anarchy*.

The event itself can only be described as a disappointment. I had intended to weigh up the merits of coverage on the two main channels, but when, early in the night, I found that the exit polls on one side were predicting an overall Conservative majority of 68 and, on the other, one of 26, I found myself increasingly drawn towards a scrap of hope. It is in the nature of the medium that it does not encourage you to confront reality, especially when being deprived of sleep. The screen begins to blur, one statistic follows another, with a swing to the left and a swing to the right. Dimly here, a Burnett there, until it is impossible to tell which of them has the target beard and which the political weather map.

It was more fun after the result trying to guess which programmes had been postponed because of the campaign. *La Belle Equipe* (BBC2, June 12), the French film of the Popular Front era, with its message of Socialist co-operation, was surely political; so was *The Marat-Sada* (C4, June 13). We all know about Spitting Image (ITV, June 11), though the election night special could hardly live up to expectations and turned out to be fairly mild in comparison with what some of the candidates had been saying about each other a few days earlier. You could catch the media "happenings" of the past three weeks by tuning in to Right to Reply (C4, Saturdays) and watching the extracts illustrating viewers' complaints. *The Gods of War* (C4, June 13) returned

with a discussion between Professor James Mackay and General Sir John Hackett on Christian attitudes to the state's use of armed force. It had been replaced the previous week by a programme in which Gerald and Lee Durrell asked the interesting, but probably apologetic question: "do animals think like us?" (*Ourselves and Other Animals*, C4, May 30).

Of course, there have been alternatives throughout, and it would be sad if admirers of Moonlighting, because of an overriding thirst for election news, missed last week's episode (BBC2, June 8). Maddie and David have now given up detecting completely, to concentrate on the far more demanding problem of their failure to communicate to each other the feelings that they have been communicating without difficulty to millions of viewers.

*The Media Show* (C4, June 10) sent Hanif Kureishi to watch the BBC filming *Vanity Fair* (for transmission in the Autumn) and to report on the television "classic aerial". He discovered a highly saleable product, but his reactions were predictable: a sanitized view of the past, respectable soap opera, the kind of thing parents allow their children to stay up for because it is Culture. These criticisms are very similar to those made by New Wave Directors about the French "quality cinema" of the Fifties and, of course, there is also a case to be made for the BBC "classic serial" as a means for transmitting the heritage of a shared culture, as well as its technical achievements, and it would be interesting to investigate, for example, what is that parents consider their children derive from watching this kind of television.

Perhaps the most striking feature of education in California discovered by Rikki, the Finnish exchange student in *All American High* (C4, June 11), was the strength of the school spirit and the importance of popularity to the students. "I think high school here prepares me for social than for a work life," was her conclusion, faced with the prospect of returning to a European educational system where she would be expected to study and write essays. It was followed by the academic problems of Stephanie (C4, June 11): two fascinating documentary, once the exit polls had told you all you really needed to know about the result of the race.

## History lessons?

... and previews a disturbingly familiar story

Timewatch BBC2, Thursday, June 25, 8.10-9.00

"We can learn from our ancestors' mistakes, after all, that's one of the purposes of history," Faniele Hom's conclusion underlines the controversy. Any argument to the effect that the Revised Code, which formed the basis for government funding of elementary education from 1861 to the end of the century. The previous arrangements had been criticized as expensive and irrelevant to the needs of working-class pupils. In 1858 the Newcastle Commission reported on poor attendance, neglect of the "three Rs" and over-emphasis on "pretentious and useless subjects like history and geography," introduced by Robert Lowe (who left "so almost pathological a distaste for the working classes"). The Revised Code aimed to get value for money by concentrating teaching on pupils' "practical station and business life."

How the appeal to relevance and standards sound familiar? At the heart of the Code was the notorious system of payment by results. From the age of seven, pupils were examined annually in reading, writing and maths, through the Code was a mere accident that they were not known as "benchmark" or "Grand Schools" were calculated on the basis of attendance and results and in many schools teachers' salaries were tied to the grant. This

registers which, if discovered, was severely punished. Teachers were subject to enormous stresses, passed on to their pupils. In at least one recorded suicide is attributable to the system. It is clear to some, even then, that these tensions were not conducive to good learning and helped to produce the "deadness" and "slackness" of Victorian schools which Matthew Arnold discovered in his work as an Inspector. Fiercely critical of the Code, he described a child holding his book upside down while he delivered a lesson evidently learned off by heart. The inspectors, who were offered "productivity bonuses" became the enemy of the university education had often not prepared them for dealing with working-class children who might find the Inspector's accent incomprehensible. Within 20 years of its introduction, the Code was already attracting widespread criticism.

The worst effects, however, were on the curriculum. The prescribed minimum standards tended to become the maximum. Teaching concentrated on mechanical repetition of tables and learning by rote. It was out all bad. Rising literacy rates achieved its main objective. But the message of Time-watch is that we can learn from the experience of 19th-century capitalism, and avoid going too far down the road of treating education as an industry of which children are the product and in which, investigating their, children comes a form of slavery.

ARTS

# Kobbé rule OK

Kobbé's Complete Opera Book. Edited by the Earl of Harewood. The Bodley Head £30.00. 0 370 31017 9.

This (as Lord Harewood makes plain in his Introduction) incomplete opera book remains probably the most useful, easily accessible popular reference book on the subject available. In one volume it gives information about virtually all operas in the normal repertory; and in this completely revised edition, about many modern operas, a good number of which only dedicated amateurs will know.

The plan is in every instance more or less the same. There is first a notice of the opera, number of acts, name of the librettist. There follows a list of the outstanding performances from the date of the premiere, each giving the opera house, the date, the cast and the conductor. This is followed by the list of characters, each with its voice (soprano, contralto, etc); and thereafter the story of the work, act by act (or however it has been divided by the composer), illustrated, though not invariably, and occasionally inadequately (*Fidelio*, for example), with musical examples. Whoever needs this information will be grateful for having it to hand in so compact and easily findable a form.

Naturally, everyone will have some grouse. Among mine is that Haydn is completely excluded, when there is room for a good many second-raters of dubious merit.

However, the work is, for reference purposes, virtually indispensable.

Pierre Watter

## Urban limbo

Ten Days in the Shadow of a Tall Tall Building. Buckinghamshire College of Higher Education.

Three members of Forced Entertainment Theatre Co-operative spent four weeks working with students from 3-D design degree and A level theatre studies courses to produce in the final five days "a collaborative theatre piece". They like extended titles... It was what used to be called a Happening, but there was nothing pretentious about the performance. The large theatre was converted into a shelving ramp of scaffolding with slatted pallets leading to a massive rectangle of shallow water. Above this was a walkway to a small platform flanked on

either side by galleries for spectators. The work involved must have been prodigious and it was undeniably dramatic.

Here is a random selection of impressions: a couple movlog aimlessly within the confines of the raised platform, sleeping restlessly, beating the floor frenetically, coupling in unerotic gestures; men and women descending into the water, casting liquid reflections as they gyrate, slide, rise and fall in a hypnotic trance.

The disciplined and co-ordinated movement of 30 students, accompanied by atmospheric music and an intermittent commentary, more poetic than expository, produced a haunting and disturbing image of man in an urban limbo.

Robin Rook

## Synthesis

The Good Woman of Setzuon Cockpit Youth Theatre

To call Cockpit Youth Theatre's production of *The Good Woman of Setzuon* "workmanlike" isn't the faint praise that it sounds. After all, the worth of honest toil is one of the themes of the play and the Good Shen Te is the prime defender of the principle of an honest day's work for an honest day's pay.

*The Good Woman* isn't as simple as that. It's dialectical in form, but not politically dogmatic in effect; the fight between good and evil exemplified by the Shen Te/Shui Ta split. The odd mix of politics, poetry and ethics that results can make for difficult watching and playing. At one time Cockpit's loud and jolly and strong with three Shen Teas, presumably to give three actresses a crack at the part. This neither detracts nor adds to the effect of the play.

But the minutiae of the language, to particular the constant proverbializing and the illustrative songs ("Stomachs rumble, even on the Emperor's birthday" etc) aren't dealt with clearly enough; and although the set piece scenes - particularly a brilliantly directed wedding sequence - are well done, the tortuous plot gets lost until the final scene of confusion.

Nick Baker



The old enmity is still going strong! The exhibition *French Humour?* - French cartoonists' view of the British at the French Institute (17-Queensberry Place, London SW7 2DT, until June 24 has been taken down for the election but still picks a punch. All the traditional butts are here - Churchill and de Gaulle, the Harcourt family, their strange head-dresses, the British climate and 50 creak teas yet Mrs Thatcher's attitudes to striking miners, the Euro-tunnel and European attempts at co-operation seem to have brought out a more virulent strain. Still, this lively exhibition makes one thing clear: contrary to rumour, the French do have a sense of humour.

Françoise Delas-Réisz

## Oil company

Springboard, the new BP-sponsored company which is the graduate version of the National Student Theatre Company, is preparing to embark on its first tour. During August the company will present two plays by young award-winning playwrights at the Assembly Rooms as part of the Edinburgh Festival. These are *Like Dolls or Angels* (50 minutes) by Stephen Jeffreys (Best New Play 1977, Sunday Times National Student Drama Festival) and *Now You See Me* (65 minutes) by Polly Teale's *Now You See Me* (1984 Sunday Times Playwriting Award).

The first is a two-hander about a circus proprietor and his girlfriend. *Now You See Me* is described as "comic, thought-provoking and illuminating episodes in the lives of two young girls growing up."

Immediately after Edinburgh, Springboard will be available for schools and college bookings. Dates on a first-come first-served basis. Contact Clive Wolfe 01 583 4586.

## THE YOUNG SHOW MUSICALS

**SECONDARY AND MIDDLE**  
"In Great Grandmother's Day"  
Drama of 1814 Buxton children who went on strike for their teachers. Chris Adams moving new musical. 27 mins. £12.45  
"The Factory Children"  
Poor meat rich in the harsh industrial 1830s. Performed all over the UK. 20 mins. £12.45  
"The Evacuees"  
City kids sent to the country in war-torn 1940s. A bit of a school show. 28 mins. £12.45  
**PRIMARY AND MIDDLE**  
"Join The Queue"  
High school comedy with a difference. 6 Adams & Sullivan hit songs. 35 mins. £12.45  
"Dream Maker"  
Dreamland adventures by BBC award winner Michael Farrant. 40 mins. £12.45  
"The Minotaur Show"  
Greek legend retold in shining song. Theatrical. Patsy Agath - 01 45 mins. £12.45  
"The Little Red Lady"  
For children and adults. A children's fair. Primary School favourite. 45 mins. £12.45  
School/Casualty hits post line from:  
**YOUNG SHOW MUSIC**  
Tel: (01) 548 0288  
Box Office, 217, Watlington, Ry. KTA 8PX











# Wiltshire

AN EQUAL OPPORTUNITY EMPLOYER

## PRIMARY EDUCATION

### HEADTEACHER POST

Chilmark C.E. (Aided) First School  
The Street, Chilmark, Salisbury SP5 8AR  
Group 1 N.O.R. 20

A Head Teacher is required for this two teacher school from January 1988, following the retirement of Mr. C. J. Penny and the completion of a review by the Education Committee of primary school provision in the area.

Chilmark is a very attractive village set in pleasant country some 12 miles west of Salisbury.  
Candidates should be committed Christians in sympathy with the aims of a Church School.

Application form and further details (SAE please) from and returnable to the Chief Education Officer, Education Department (Ref. ST/TPN8), Trowbridge, BA14 6JB by 26th June, 1987.

### SCALE 1 POSTS

Uplands Special School  
Lough Road, Penhill, Swindon SN2 8DE

Teacher required from 1st September, 1987 for this temporary one year post which could be made permanent. Post is for pupils for severe learning difficulties. Written letter of application to be sent to the Head Teacher, stating age and giving particulars of education, experience and names and addresses of 2 referees by 3rd July, 1987.

Worminstor Primary School  
Princetown Lane, Worminstor, BA12 8NT  
Group N.O.R. 154

Required for academic year 1987/88 an enthusiastic and versatile teacher for Lower Juniors in this semi-open plan school. A sense of humour an advantage. Written letter of application stating age, giving particulars of education, training, experience, and stating special interests and skills and also the names and addresses of two referees to be sent to the Head Teacher by the 28th June or earlier if you wish. (SAE please).

Studley Green C.P. School  
Westfield Road, Trowbridge, BA14 6JQ  
Group 8 N.O.R. 220

Temporary Teacher Scale 1 Plus SSA for 1 Year  
Teacher with a minimum of 3 years Reception experience, required to teach a small class of Language Disordered Children. Knowledge of, or experience with, children with Special Needs could prove to be an advantage. Candidates must be prepared to work in a team situation with the School's Speech Therapist and a Language Unit Leader. The successful candidate must be enthusiastic and be prepared to give time out of school to discuss individual work programme with colleagues and to attend the appropriate courses. There is a possibility of the post becoming permanent.

Application forms and further details (SAE please) available from the Head Teacher, Mr. R. J. Lang, Studley Green Primary School, Westfield Road, Trowbridge BA14 6JQ. The closing date is 3rd July 1987.

The Grove County Primary School  
Hazel Grove, Trowbridge, BA14 6JG, Trow 5242  
Group 6 N.O.R. 289

Required for September 1987 permanent Scale 1 Teacher initially for a class of children within the 6-8 year age range. Candidates with Musical talent are particularly sought. Potential candidates are welcome to visit the school where further details are available.

Application is by form (SAE please) with accompanying letter, which should state areas of curriculum strengths, returnable by the 3rd July, 1987.

The Grove C.P. School  
Hazel Grove, Trowbridge, BA14 6JG, Trow 5242  
Group 6 N.O.R. 289

Required for September, 1987, a permanent Scale 1 Teacher initially for a class of children within the 6-8 year age range. Interest in problem solving, COT and/or Computers would be an advantage.

Potential candidates are welcome to visit the school, where further details of this position are available. Application is by form (SAE please) with an accompanying letter which should state areas of curriculum strengths, returnable by the 3rd July, 1987.

Toothill Primary School  
Stokeley Drive, Swindon, SN5 8DR  
Acting Head Teacher: Mr. R. Jackson  
Estimated January, 1988 N.O.R. 480

Required from September, 1987, an enthusiastic permanent Scale 1 Teacher.

When applying, candidates should specify their curriculum interests and age ranges previously taught.

Letter of application, C.V., and names and addresses of two referees to the Acting Head Teacher no later than 26th June, 1987.

Eden Junior School  
Collingwood, Ede, Swindon, SN5 1TG  
Head Teacher: Mrs. M. Eldridge  
Estimated N.O.R. January 1988 - 247

Required from September or January, a Scale 1/5 teacher to support children with Special Needs in a Junior School.

Applications are invited from enthusiastic, sympathetic teachers to implement a practical curriculum based on first hand experience. The person appointed will be responsible for a small number of children with moderate learning difficulties.

Application forms and further details from the Head Teacher at the school (addressed envelope please). Closing date 26th June, 1987.

Oliver Tomkins C of E Junior School  
Beaumont Road, Swindon, SN5 8LW  
Head Teacher: Mrs. A. J. Barrett  
Estimated January, 1988 N.O.R. 314

Required from September, 1987, a permanent Scale 1 Teacher for this school Junior School.

Letter of application, which should include particular interests and qualifications, C.V., and names and addresses of two referees to the Head Teacher at the school no later than 24th June, 1987.

**SPECIAL EDUCATION**  
AREA SUPPORT TEAM LEADER (SCALE 1)

Required for January 1988, a Leader for the Central Area Support Team upon the promotion of the present postholder to an Advisory post with special authority. The Team Leader is responsible for leading and co-ordinating a team of teachers which provides Special Needs support to schools in the area. The team leader is in the primary sector and will be based at Trowbridge. The team leader will be a member of the Area Support Team and will be responsible for the team's work in the primary sector.

Application forms and further details (SAE please) from and returnable to the Chief Education Officer (Ref. ST/TPN8), Trowbridge, by 26th June 1987.

## PRIMARY HEADSHIPS

### CAMBRIDGESHIRE

#### (EQUAL OPPORTUNITY EMPLOYER)

##### SAUBRE COMMUNITY PRIMARY SCHOOL

Church Drive, Duxford, Cambs.

Required for January 1988

HEAD TEACHER Group 3 plus Community Allowance.

Further details and an application form available from the Senior Area Education Officer, Education Office, Southside Close, City Road, Peterborough PE1 1JU (i.e.s.a.). Closing date 3rd July 1987.

10th July 1987. 110010 (140538)

### DORSET

#### DURWESTON (AIDED) FIRST SCHOOL

Durweston, Blandford (Group 1)

HEAD TEACHER required from January 1988.

Application forms, returnable by 3rd July, and further details from the Education Officer, Dorset County Council, Dorchester DT1 1XJ (i.e.s.a.). (140538) 110010

### EAST SUSSEX

#### POLEDS OF SCHOOL

Dulles Drive, Folkestone SN5 8DE

Applications are invited for this Group 4 Headship for September 1987.

Relocation grants in approved areas.

Application forms and further details (SAE please) available from the County Education Officer, PO Box 61, County Hall, St Anne's Crescent, Lewes BN1 1BO. Closing date: July 3, 1987.

140547 110010

### EAST SUSSEX

#### PORTLAND INFANTS

Portland Road, Hove BN3 8JA

Applications are invited for this Group 4 Headship for September 1987.

Relocation grants in approved areas.

Application forms (see please) available from the County Education Officer, PO Box 61, County Hall, St Anne's Crescent, Lewes BN1 1BO. Closing date: July 3, 1987.

140551 110010

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### EAST SUSSEX

#### PORTLAND INFANTS

Portland Road, Hove BN3 8JA





## SURREY COUNTY COUNCIL

\* FRINGE AREA LONDON ALLOWANCE £309 p.a. throughout the County.  
\* Temporary housing may be available.  
\* Generous relocation expenses in approved cases.



### DEPUTY HEADSHIPS

#### GOODWYN'S COUNTY MIDDLE SCHOOL

Goodwyns Road, Dorking, RH4 2LR

Tel: Dorking 884506. NOR January 1987, 143.

DEPUTY HEADTEACHER required for January 1988, or earlier, for this Group 4 County Middle School for pupils aged 9-12 years. The appointment will be made to a permanent Group 3 post, but will temporarily at Group 4 level to be reviewed in April 1988. Applicants should be committed to a traumatic thematic approach to the curriculum.

Salary Scale £12,126 - £13,500 pa (starting salary).

TADWORTH COUNTY FIRST & MIDDLE SCHOOL

Tadworth Street, Tadworth, Surrey, KT20 5RR

Tel: Burgh Heath 354541. NOR January 1987, 336.

DEPUTY HEADTEACHER required for January 1988 for this Group 5 County First & Middle School for pupils aged 5-12 years.

Salary Scale £12,843 - £14,112 pa

Application form and further details from South East Area Office, 123 Blackheath Road, Regale, RH2 7OD.

Tel: Radhill 774188 Ext 4416.

Closing date 3rd July 1987.

(M847)

HERFORD AND WORCESTER COUNTY COUNCIL

REVEREND C. J. ALCOCK, PRIMARY SCHOOL

Pembroke, Leominster, Herefordshire HR8 6DU

Headteacher required from January 1988 Group 3, IN.O.R. 701. Primary School.

The Governors are looking for a person who is committed to the post, an ability to play the piano and teach music with knowledge of computers would be an advantage.

Completed applications to be returned to the Chairman of Governors at the school.

Further details of the position can be obtained from the County Education Officer (Ref: 86/0011).

County Education Officer, Castle Street, Worcester WR1 3AQ. IS.A.S.

One reference must be the candidate's parish priest or minister.

Closing date 3rd July 1987.

MUCH MARCLE C.E. V.A. PRIMARY SCHOOL

Much Marcle, Herefordshire HR8 2LV

Appointments of Headteacher for January 1988

(IN.O.R. 311). Candidates should be committed to the post, an ability to play the piano and teach music with knowledge of computers would be an advantage.

Completed applications to be returned to the Chairman of Governors at the school.

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Closing date 3rd July 1987.

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Much Marcle, Herefordshire HR8 2LV

### PRIMARY DEPUTY HEADSHIPS

continued

ESSEX

RIVERSIDE COUNTY INFANTS' SCHOOL

Ferry Road, Huttborough, Haverhill, Essex SS16 5NG

Tel: 01702 550282

(R011201)

DEPUTY HEADTEACHER (Group 4)

Required January 1988.

RS-A/ADVER/1987

Applications are invited from candidates who are committed to the post, an ability to play the piano and teach music with knowledge of computers would be an advantage.

Completed applications to be returned to the Chairman of Governors at the school.

Further details of the position can be obtained from the County Education Officer (Ref: 86/0011).

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Closing date 3rd July 1987.

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Appointments of Headteacher for January 1988

(IN.O.R. 311). Candidates should be committed to the post, an ability to play the piano and teach music with knowledge of computers would be an advantage.

Completed applications to be returned to the Chairman of Governors at the school.

Further details of the position can be obtained from the County Education Officer (Ref: 86/0011).

County Education Officer, Castle Street, Worcester WR1 3AQ. IS.A.S.

One reference must be the candidate's parish priest or minister.

Closing date 3rd July 1987.

MUCH MARCLE C.E. V.A. PRIMARY SCHOOL

Much Marcle, Herefordshire HR8 2LV

Appointments of Headteacher for January 1988

(IN.O.R. 311). Candidates should be committed to the post, an ability to play the piano and teach music with knowledge of computers would be an advantage.

Completed applications to be returned to the Chairman of Governors at the school.

### WEST SUSSEX

OURRINGTON FIRST SCHOOL

Worthing

DEPUTY HEADTEACHER

Required for September 1987 for this Group 5 school.

Further details and application forms can be obtained from the County Education Officer, 100, High Street, Worthing, Sussex BN1 1JL. Tel: 01243 850282.

212 is a.s. please. Interested applicants are welcome to visit the school. 140888 110015

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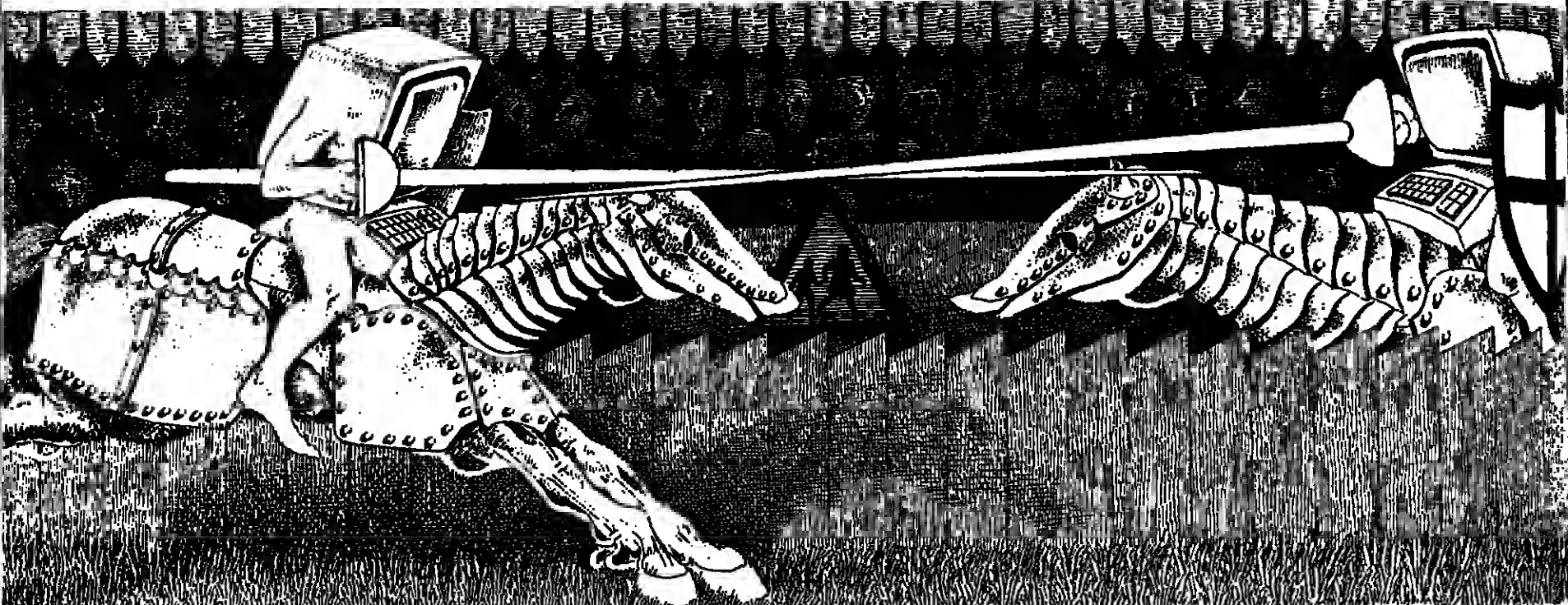




## HARDWARE

With several new computers on the market, what is the prospect for an educational standard?

# Battle of the giants



The days of innovation in micro-computer technology are virtually over and schools should be able to settle down to a period of stability lasting beyond the year 2000 as manufacturers collaborate to produce compatible hardware. The multi-tasking systems of today are only slightly different from those available two decades ago: the window environment was available in the late Sixties and 32-bit architecture has been in the melting pot for over 10

years. No equivalent developments are in the melting pot any more, but 1988 would appear to be the year when these will come together and really take off in schools.

The future of a bright future of collaboration and software that is easily transportable between systems is as rosy as it is unlikely. The chief reason is that Acorn doggedly refuses to lie down and accept MS-DOS as a national standard for computers.

This week, Acorn launched its long-

IAN NASH

awaited RISC machine (reduced instruction set computer - see page 53). Mike Page, their Corporate Communications Director, describes it as not just one machine but a whole new approach to the philosophy of education that will set the scene for at least five years. In stressing this new approach, he says it is not the cost of the machine but the follow-up support for schools and teacher training that counts.

This is almost word for word what Mike Fisher of Research Machines (RM) said, following the launch of the new MS-DOS-based range of RM Nimbus systems earlier this year (PC186, AX286 and VX386). He too spoke of at least a five-year plan: "We must predict the needs of schools in 1992 and with the new range we think we have done so."

Acorn and Research Machines have remarkably similar philosophies and long-term plans but little else in common as the battle for supremacy in schools continues and begins to look like getting bloody, with Acorn dismissing MS-DOS as a serious contender and Research Machines accusing both Acorn and BBC Enterprises of an "unethical and misleading" four-year agreement enabling Acorn to use the BBC logo on its new generation of machines.

Both companies claim an unassailable position in the education market. But Mike Page insists that "despite enthusiastic preaching of an MS-DOS gospel, uptake in education has been relatively small". Desires for standardization and "the dubious assumption that 16-bit is better" have produced what he describes as "a great deal of ineffective but not many purchases".

He predicts no change in the foreseeable future and claims education makes unrealistic demands that MS-DOS was never designed to meet. Having said that, he does not deny the need for some 16-bit and MS-DOS compatibility but points to the plug-in module of the Master 128 as "giving the best of both worlds".

He argues that the success of MS-DOS in vocational education and the software is both beyond the price range of most schools and "horrendously difficult" to handle. The next generation of school computers, he says, over eight-bit, is "at best, disappointing" regarding its certain that a 32-bit system based on the very fast RISC architecture will dominate. Its processor, not only has its own operating system but can emulate the Intel 8088 used in IBM-type computers, and the Rockwell 6502, used in the BBC micro. The new machines will therefore run the 6502 software.

Education authorities are now looking for a smooth path and a working system for the next five years. Acorn

that 84 per cent of schools had the BBC micro and this, according to Mike Page, is what they want to follow on from. Another critical factor is that they have no money to throw away and need a system with a long product life.

He sees standards as coming out of high-level languages like Lisp and Prolog, rather than being based on any single operating system, and he believes the Department of Education and Science will support this.

He could well be right. After all, the DES has in recent public announcements been putting its voice behind high-level languages and the window environment for transportability of software. But whether the new Acorn RISC machines can live up to the promises has yet to be seen.

Research Machine's strategy is to introduce second-generation (16-bit) computers without problems of redundancy while providing a smooth transition to the third generation (32-bit) systems. Moving through the range from Nimbus to the VX386, he believes Research Machines will satisfy immediate educational needs and that they have already built the machines schools will be demanding in five years. The technology has been proven by the Apple Macintosh, he says. And far from being horrendously difficult to handle, it is a "pull down menu and push button" approach.

As educational demands become more sophisticated and prices fall, which they will, schools will move into the third generation and to a window environment which allows different packages such as word processing and spreadsheets to merge.

With the RM range you will be able to run all applications on all three systems. You trade off resolution, colour and memory as you step back a generation. But it does appear to be some safeguard against obsolescence and, of course, all three generations can be networked together.

"Now IBM is using DOS (PC-DOS) and is interested in windows, you won't be able to buy a 286 or 386 machine from IBM that does not have Micro Channel with it," says Mike Fisher. He sees a two-tier market emerging immediately with those with compatibility and "offering educational support for everything from in-service teacher training to on-the-spot service from a team of mobile engineers, and those companies which supply little other than the computer."

Acorn may have the volume sales but RM claims a £12 million school market (£20 million in the university and polytechnic sector) with 22 local education authorities and the London Boroughs committed to RM computers. Since the days of the 3802, the company has established a strong lead in vocational education and is unrivalled in further education.

But just as Acorn acknowledges the need for compatibility with MS-DOS and a 16-bit architecture, the BBC

for the relationship between Acorn and the BBC to be given serious scrutiny.

The question he wants an answer to is: "At what point does it become wrong for the BBC to remain involved in the market place and in determining what should and should not be the national standard for educational computing?"

Meanwhile, Olivetti is making a place with its Classnot computer at work (MS-DOS) and a proposal for the support of central government. The two-stage proposal is to deliver information technology in line with the United States, it has a good point. But there is something missing about Olivetti promoting MS-DOS in the UK, in direct competition with the associated company Acorn, while it markets the Master Compact for Acorn under the Olivetti label.

There are 3,500 Acorn Econet in schools and colleges and the RISC range will undoubtedly be pre-empted in the upper age range. IBM too is making more aggressive moves into schools following its last year's Year Schools Project in which it involved 40 schools, from primary to secondary and special schools. With the recent launch of the Personal System/2 family (see page 54), the company made the bold claim that DOS systems have set the standard of architecture for at least the next decade. Scottish schools accept this almost five years ago when they adopted the Apple computer as a standard for education.

If Acorn is able to provide the promised smooth transition from the BBC and Master Compact, however, MS-DOS companies will find it difficult to shake off than they expect. Even the Inner London Education Authority, one of the most committed devotees of Research Machines, has given in to pressure and technology to give in to the BBC machine. The example of the BBC machine is a staff, who saw the BBC machine as an unsurpassable barrier to their obligations for control technology.

The prospect of a standard may still prove as remote as when the original government tender for micro in schools, almost 20 years ago, was being completed at the beginning of the revolution in computers in education.



## HARDWARE

Acorn's new machines for education

# Running a RISC

On Tuesday Acorn Computers launched a new generation of BBC micros. Called "Archimedes", this new family of microcomputers is 20 times faster than the original BBC micro and it may prove to be the most important new product in educational computing since the launch of the first BBC micro in 1981.

From this week, the Archimedes 300 will be the official BBC micro alongside the existing Master series. It and the rest of the family are based on revolutionary chip technology pioneered by Acorn and called RISC - an acronym for reduced instruction set computer. The new chips have allowed Acorn to produce 32-bit micros with a retail price starting at £799 plus VAT (educational prices will be lower).

Acorn claims that the new computers are the fastest micros in the world. In their production form, the new chips are capable of processing up to four million instructions per second (MIPS) and Acorn say they have even achieved up to 18 million.

The machines are compatible with most existing BBC software. They have an operating system which looks like an Apple Macintosh and the optional capability of running MS-DOS programs.

Two series of Acorn micros were launched at the same time. The Archimedes 300 series is officially dubbed the BBC range and the corporation has worked with Acorn to ensure the mutual acceptability of the new computer. There are two Archimedes machines in this range, the 305 and the 310, offering 0.5 and 1.0 megabyte of RAM respectively. The 400 series carries only the Acorn badge. A more expensive and more powerful range of micros, it initially offers two machines with up to four megabytes of RAM at prices up to £3,000 excluding VAT.

The history of RISC technology at Acorn is a story of triumph over disaster. The RISC concept for microprocessors was originally conceived at Stanford University in California in the early Eighties. It was based on the discovery that conventional microprocessors are highly inefficient because only 20 per cent of built-in instructions are used 80 per cent of the time. This 20/80 ratio is at the heart of the RISC concept.

The initial idea was to build a smaller (and therefore faster) chip which carried the vital 20 per cent of frequently-used instructions within the hardware design while removing the 80 per cent of rarely-used chip instructions and putting them into software. The principle is that although it takes longer for an instruction to be carried out if the chip has to search software for a coded instruction, 80 per cent of the time the chip will be running many times faster than a conventional microprocessor and this produces a superior overall performance.

As the concept developed, the researchers found ways of placing "building blocks" for the rarely used 80



This may prove to be the most important new product in educational computing since the launch of the first BBC micro

RAY HAMMOND

per cent of instructions into the redesigned hardware. The end result is a smaller, faster chip which only occasionally has to rely on external instructions to accomplish processing.

Acorn designers Roger Wilson and Steve Furbur, the designers of the original BBC micro, began to explore the RISC concept in late 1983. Other companies including IBM and Hewlett Packard also mounted RISC programmes, but until now the new concept has only surfaced as a product in esoteric IBM scientific workstations. For a small British company, the development of an entirely new type of processor represented a massive gamble.

When Acorn crashed in 1985 the company was already heavily committed to developing RISC for its next generation of microcomputers. The work on the new chip design is believed to be one major reason why

## ARCHIMEDES: SPECIFICATIONS

All the machines are based on a 32-bit ARM (Acorn RISC Machine) microprocessor operating at a clock frequency of 4.8 MHz. RAM provided is 0.5, 1, 1.0 and 4.0 megabytes for the Archimedes 305, 310, 410 and 440 respectively. The machines have a separate CMOS battery-backed RAM. Software supplied includes 512 Kbytes in ROM, the Arthur operating system, a new version of BBC Basic called "BBC Basic V", Advanced Disk Filing System (ANFS), Basic Editor, Desk Top Manager and character sets including Latin and Greek with Arabic under development. On a Welcome disc supplied with the machines, programs include a 6502 emulator, tutorial program, a music editor, a font designer, a graphics editor, a text display, a 640 x 480 graphics resolution of 640 x 480 and they will work with the 16-bit graphics resolution of 640 x 480 with the 16-bit graphics resolution of 640 x 480.

work by the addition of an internal plug-in module. The keyboards fitted to the machines are 103-key "enhanced" IBM-style keyboards, with the BBC-style red function keys retained on the 300 series. A three-button mouse with interface is included.

The prices of the 300 series machines have been fixed at £799 for the basic computer, £849 for the 305 plus black and white monitor, and £999 including colour monitor. The 310 sells for £875 for the basic computer, £925 with mono monitor and £1,075 with colour monitor. Firm prices for the 400 series have not yet been announced but the basic 440 computer is likely to sell for around £2,350 with a fully expanded VAT. Acorn's normal educational discount of between 10 and 15 per cent will apply to the Archimedes machines and early purchasers are likely to be further rewarded.

The 400 series machines are fitted with a "back plane" which has three 64-way and one 96-way DIN-4162 connectors and provision for co-processors. All machines may be up-graded to work with the 16-bit graphics resolution of 640 x 480.

though it is a totally different design. The top row of red function keys so singular to the BBC micro reappears and fundamental operations like re-booting via the "Shift/Break" routine have been retained.

"We wanted to use all of the extra power available to us in making the machine for easier to use than existing micros," explained Bob Coates, Acorn's Marketing Director. "With so much power available, it is hard for some people to imagine how it might be used, but we have devoted a lot of memory space to developing a new operating system which will be far, far easier to use for both teachers and pupils. This ease of use is the key to greater and more successful penetration of the computer in education."

The operating system, called "Arthur", is very powerful and provides control over the computer via a three-button mouse. The new micros have exceptional colour facilities (4,096 distinct colours of which 256 can be on screen at the same time) and all program functions are selected from "pop-up" menus which are clicked for action. Macintosh users will immediately feel at home in the Arthur environment, but Acorn is quick to point out that their development of a user-friendly operating system draws on the original Xerox research work which spawned the Macintosh system and the many emulations such as "windows" which now exist in the IBM PC world.

Like the original BBC micro, the new machine has a massive potential for expansion. It is equipped with "bays" to take add-on "modules" which are now being developed by Acorn and third-party suppliers. These will include MS-DOS interfaces, modem modules and MIDI music interfaces.

The most important element in the new machine is its combination of very high power and relatively low cost. The power has enabled Acorn to make the machine extremely easy to use and it is through this step that the company hopes to reach that large body of teachers who are still proving resistant to using micros as teaching tools.

As yet there is very little applications software for the Archimedes machines. Although most BBC programs will run on it, schools lucky enough to get an early machine will not be able to use it immediately, unless they are already running BBC micros on an Econet network. This is because the new family of machines are fitted with the Sony-style 3.5 inch hard-case

floppy disc (as adopted by the new IBM PS/2 microcomputers) rather than the old 5.25 inch floppy standard. Schools with an Econet network will be able to purchase an Econet interface for the Archimedes and immediately transfer existing BBC software to the new disc format via the network.

Acorn say that any existing BBC program which runs on the Econet network is likely to work well on the Archimedes and only poorly-written and "badly behaved" programs are likely to require modification. BBC software publishers are now working on ways to offer software users a service which will transfer existing software across to the new disc format, but Acorn are not offering special help with this. They make it clear that the new machine is not a replacement for the existing BBC Master 128 series. They expect the BBC Archimedes machines to be used principally for new applications.

Despite the massive development costs, Acorn are launching the new computers with unusual caution. In the first three months only a few thousand BBC Archimedes will be produced (probably less than 3,000). Acorn is now seeking a way of getting this first run of "field trial" machines directly into the hands of key local authorities at a heavily-subsidized price. Over the last few months they have secretly been showing prototype Archimedes to local education authorities and their confidence that their package is right for the future needs of education.

Despite this, the first batch of machines in the market place is being regarded as experimental. Bugs in the system are likely to surface as the machines endure heavy use. The buyers of first-batch machines will be offered free upgrade paths so their machines become bug-free without charge and the main volume run of (hopefully) bug-free BBC Archimedes machines will start in the autumn.

The Acorn 400 series won't be available in volume until 1988. Acorn expect this powerful range to appeal to further and higher education, but point out that it intends to expand away from its education-dominated market base and penetrate other scientific and technical markets. The 400 series uses the same RISC architecture as the BBC machines, but offers greater RAM capacity, greater expandability and a more flexible format. Future 400 series products include scientific workstations and powerful computer-aided design stations.

# Hands up for hands on!

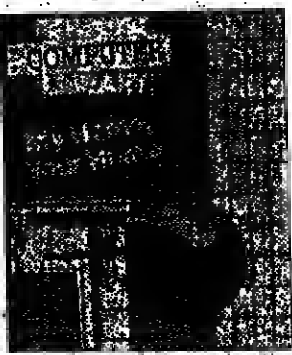
My First Computer Library aims to provide an interface between the classroom computer and other projects for 6 to 9 year olds. Two new titles are

Two new titles are:  
Getting There  
My Home, Your Home

Hardback £4.50 each



Already available:  
Me and You  
Colour and Shape  
Growing Things  
Living with Animals



Macdonald



## HARDWARE

A new generation of business machines

## Big blues

RAY HAMMOND

Two months ago IBM made their long-awaited announcement of a new generation of personal computers called the Personal System/2 and as the full implications of the announcement emerge, it is becoming clear that the move will have profound effects on business and commercial computing over the next decade. This in turn will have a strong effect on education. IBM has just abandoned the only standard that has existed in microcomputing.

In particular their launch has placed schools and local education authorities in a dilemma over future purchasing decisions about micro for secondary school use. The announcement of new BBC machines based on RISC processing (see page 53), and the arrival of powerful, low-cost alternatives such as the Atari ST machines and the Commodore Amiga, have already clouded what was once a fairly clear-cut issue. Now the new IBM machines are likely to establish a new standard in microcomputing, which means that any of the micro currently used for vocational training and business studies could rapidly become obsolete.

The first micros appeared in 1977 with small companies such as Apple and Commodore pioneering the market with incompatible machines. Although it wasn't until 1981 that IBM finally decided that this fledgling market was worthy of attention, the world rapidly dropped the incompatible machines and adopted the IBM-PC standard and, with the notable exceptions of Apple, Commodore and Atari, the world now computes to what is known as the "IBM-PC standard".

The bad news for IBM was that although they partially protected the design of the PC, manufacturers such as Amstrad, Compaq, Olivetti and Research Machines found methods of making computers which are compatible with the IBM-PC standard. "Big Blue", as the multi-national is affectionately known, discovered that these makers were able to "clone" their machines and steal a major part of the market.

Today the IBM-PC standard still dominates microcomputing in the business and upper end of secondary education sector but the basic technology is now nearly 10 years old. Since the introduction of the first IBM-PC new microprocessors have appeared which offer far greater computing power than can be utilized by the IBM-PC standard operating system and the market has spent the past two years anxiously awaiting IBM's new generation of machines to see which direction microcomputing is going to take.

If it seems incredible that one manufacturer can have such control of a market, it has to be realized that IBM's position in world computing is almost unassailable. The company is five times larger than Digital Equipment (DEC), the world's second-largest computer maker, and the corporation is likely to have a turnover equivalent to the gross national product of Australia by the end of this century.

While IBM has been deliberating how best to take control of the future of microcomputing, smaller companies have tried to second-guess them.

by launching their own proprietary computer systems based on the new chips. In the last year CompuLink, the world's largest manufacturer of IBM-PC clones, has launched its version of new generation machines and companies such as Research Machines and Apricot have also risked going in alone to establish the new standard first.

All of these brave ventures now seem doomed to only limited success following IBM's recent announcement. The giant company seems to have succeeded in launching a new standard which will make it very difficult for other manufacturers to make economical clone machines while ensuring that the new standard can still use the benefits of the wide range of existing PC-standard software.

The new IBM machines have a generic title of IBM Personal System/2 (PS/2) and the range currently on offer has four models, the 30, 50, 60 and 80. The microcomputers are based on microprocessors from the Intel corporation called the 80386, 80286 and the 80387, and the 30, 50, 60 and 80 models are of an entirely new design. The new computers also use 3.5 inch floppy discs rather than the old-fashioned 5.25 inch ones.

At the core of the new machines is a new "central nervous system" called the Micro Channel, which is the expansion bus on to which all future "add-ons" will be connected. Over the past six years thousands of third-party manufacturers have been able to make add-on hardware cards for IBM-PCs and their clones without paying a cent to Dig Blue, but the "closed architecture" and patent protections of the new Micro Channel mean that all future add-on products can only be offered with IBM's consent (and financial participation).

At the heart of the strategy is IBM's "migration" policy. IBM has realized that the IBM-PC standard is now so widespread that it is wrong to consider it a generic standard: it is closer to being a standard which belongs to the industry as a whole. Users in schools and businesses all over the world have invested billions of pounds in software which operates on the IBM-PC standard and had IBM expected users to abandon this investment in favour of a new system, they would certainly have lost their lead.

As a result IBM is offering buyers of the new Personal System/2 machines a special "Data Transfer" software package which enables the new micros to run all of the existing PC software (although PC programs will still be unable to exploit the awesome power of "upper range PS/2s") and by this device the company is offering users the chance to move into the new microcomputing environment gradually while ensuring that as they arrive they are locking themselves ever more firmly into the future IBM environment.

Although the new IBM micros are potentially very powerful, IBM is now offering the machines for sale with PC-DOS 3.3, a modified version of the existing PC operating software which

cannot begin to utilize the power of the new machines fully. The company is not releasing a new operating system for the PS/2 until early next year, which is unlikely that powerful application software for the new standard will be available until the end of 1988. When the new software does arrive, users will be able to use one powerful operating system and several less powerful ones.

Despite this drawback, corporate and institutional buyers all over the world are placing orders for the new machines, knowing that they are staying with the "safe" bet of IBM computing without having to abandon their existing investment.

For secondary school computing, the arrival of the new standard means that purchasing decisions for the next couple of years have suddenly become very tricky. Until now schools have wanted to offer pupils computing experience on an industry standard, but have been able to buy low-cost clones such as Research, Tandy or Amstrad machines, in the safe knowledge that they were compatible with mainstream business and scientific computers while economic of hardware cost. This is no longer the case.

The world's major software houses are now writing new applications programs for the IBM PS/2 series of machines and these will not run on existing IBM-standard PCs.

Although IBM-style PCs will continue to dominate the market place for another 12 months or so, by the end of next year exciting new educational, scientific and business applications will have emerged which will be peculiar to the PS/2 configuration and if schools wish to go on offering computing experience which is in line with the trial and commercial computing, they will have to buy IBM machines. It is, of course, precisely IBM's aim.

The existing clone manufacturers are naturally trying to find ways of "copying" the PS/2 system without either infringing IBM patents or paying money to the monolith. In such a deal could be struck, and time their task will be much harder than it was when they set out to emulate the original PC standard. IBM has now learned from its past mistakes and has used "closed architecture" to sew up the PS/2 design extremely tightly.

Human ingenuity being what it is, we can be certain that an Amstrad type clone will eventually emerge, but the cost of parallel development and the effort that will be required to produce such compatible but substantially different machines will not produce low-cost clones and, without price advantage, emulation machines will have little to offer. In addition, IBM will have enjoyed several years of high profit margins from the PS/2 range and will be able to retaliate against clone makers by slashing their own prices.

To underline the fate of the IBM-PC standard, IBM have announced that it is slashing the prices of existing PCs models by up to 25 per cent, phasing them out of production.

## Transitional

JACQUETTA MEGARRY

The Transition Between Primary and Secondary Schools: An Information Technology Perspective

24 pages  
Distributed free by the Microelectronics Education Support Unit, Science Park, Warwick University, Coventry CV4 7EZ.

CALG - the Computing Association's Liaison Group - has for two years represented a variety of organizations in investigating the problems of the primary/secondary transition. The publication of this report was partly funded by the DES, and copies should have reached state schools in England and Wales, but many have not. It is a pity that it is not more widely known.

It was an achievement to get all these sectional bodies sitting around a table and co-operating. It is scarcely surprising if the process which resulted from their meetings suffers from worthy blindness and lacks precision in translating recommendations into action.

It is easy to recognize that computing both increases the opportunities and underlines the need for primary/secondary liaison, some pupils leave their primary schools with more computer awareness than some secondary computer courses ever succeed in achieving. It is a pity that it is not more widely known.

define each primary school as a joint partner, simply because of the many-to-one relationships in which secondary schools automatically pass on their knowledge.

Despite its failure to deal with such issues, this short report provides an insight into the problems of the transition. It is a pity that it is not more widely known. The organizations represented by CALG are: Micros and Primary Education (MAPE), Microcomputer Users' Education (MUSE), the British Computer Society, and the British Educational Research Association.

## Support for the Teacher and Curriculum

Teachers in all phases of education expend endless time and energy identifying pupil needs, developing strategies to meet these, locating or preparing appropriate materials, and all this before the actual business of teaching starts. It is hoped that the development of the NERIS database will help teachers with these tasks.

The first operational phase of NERIS the National Educational Resources Information Service was launched in February 1987 after just eleven months of development work. The NERIS team had still been drawn from LEAs where they had been working closely with teachers in the areas of curriculum development, in-service training or information technology. They were joined by programming experts from the university and commercial world.

To meet its objectives NERIS has to develop a system which will enable teachers to locate up-to-date and relevant learning materials and curriculum information that is scattered throughout the country. Secondly, to create a system which can be used with equal ease and success by those with little knowledge of on-line retrieval systems and by experts. Thirdly, to provide an electronic means of delivering teaching materials in their entirety directly to schools using existing technology. NERIS also has to stay ahead of developments in the field of information handling in order to assist schools as new technology and software become available.

Funding for development work comes from the Department of Trade and Industry via the Industry/Education Unit headed by Dr. Eric Bates. This same unit has been responsible for the Micros in Schools Scheme and more latterly, the DTT Software and Modern Schemes.

## The NERIS system

The inter-related systems required to operate NERIS are shown opposite. The computer system that holds NERIS information is located at the Open University. In order to cope with a range of information needs three levels of retrieval system are being developed. LEVEL ONE is aimed at inexperienced or casual users. It is presented in videotext so that it has a screen appearance like CHEFAX, ORACLE and PRESTEL although it operates in an entirely different fashion. LEVEL TWO is also in videotext but offers more search facilities, whilst LEVEL THREE will be a non-videotext system and have the comprehensive range of facilities. LEVEL ONE is currently available in schools. LEVEL TWO will be trialled in schools in the autumn. LEVEL THREE and a CD-ROM version should be available during mid-1988.

Databases are only of value if they meet the needs of their users. NERIS is aimed at teachers and others involved in curriculum development. It will satisfy the need for a single source of curriculum data that is comprehensive and readily available in any easily accessible form. Initially, NERIS will concentrate on building an information gathering network for the sciences, mathematics, geography, and social and personal development education. References to subject specific materials should not be included in the database. Successful searches can be made on such areas as decision making, problem solving, study skills, active learning, industrial awareness etc. Whilst this pattern will continue, users should not lose sight of the stated scope of the database.

To understand what NERIS can provide let's look at a sample enquiry. Using the Search Screen opposite, the database can be searched for material or information in ANY MEDIA on ECOLOGY and CONSERVATION available for MIDDLE SCHOOL pupils. Such a search will produce information sheets, role play cards, worksheets, project guides, the details of nature reserves and many organisations throughout Britain with educational facilities and services, details of visiting speakers, and a host of bibliographic references to film, video, books, resource packs and other materials.

Some records focus on a particular theme such as industrial applications of scientific principles, curriculum development projects, software reviews for special education, primary science and environmental studies.

Enormous effort is expended at both local and national level on curriculum development. Providing information about initiatives throughout the country is one of the areas of the database being developed with SCDC. The simplest record can take the form of a bibliographic reference or it can include data that will enable contact to be made with an individual or organization.

One of the exciting features of NERIS is its ability to carry some materials in their entirety. Whilst this is currently limited to text and simple graphics, a development programme for handling more complex graphics is underway. Using this facility it is possible to search for complete assignments and worksheets, for pupil dashboards, teacher notes and for examination papers and marking schemes aimed at GCSE. Use of special software (called MARVEL) that enables downloaded records to be printed or modified is required and this is available free or charge from NERIS.

To assist users explore the scope of the database on on-screen wordlist is provided that indicates the number of records available on each topic. This is currently being edited as a first step in the preparation of a thesaurus. The database already contains many thousands of records and is growing rapidly.

## Sources of Information

As teachers we use information and materials from a myriad of diverse sources. Some of these are commercial but there are many, not so readily available, that are often the result of local or national initiatives. To be effective NERIS needs to create effective procedures for collecting and validating data from all sources.

Since the first public announcement about NERIS in April 1986, there has been no shortage of potential information providers. However, the rapidly expanding list of sources has brought with it a plethora of logistical problems. To resolve these a number of models are being developed.

One very successful model has been based on the creation of networks where one organisation takes responsibility for co-ordinating the data gathering and input of other related bodies. Examples include networks based on such organisations as The Royal Society for Nature Conservation, The Natural Environment Research Council. The result has been to produce a comprehensive and uniform range of records.

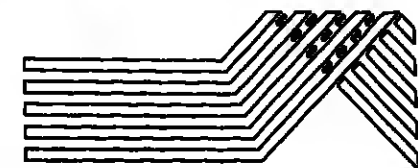
Another exciting arrangement has been the creation of a primary science network. Here the emphasis is on the provision of information by teachers for teachers and, as in many other cases, the materials produced are only available from the database. This initiative is being co-ordinated by a group of SATROS. Teachers wishing to obtain further details may do so by searching the database for the title STEPS (Science and Technology Education in Primary Schools).

The widening range of information providers includes teacher groups, exam boards, LEA resource and specialist centres, educational publishers, the major curriculum development agencies, educational trusts, government bodies, other databases, special projects, subject and professional associations.

## Access and Costs

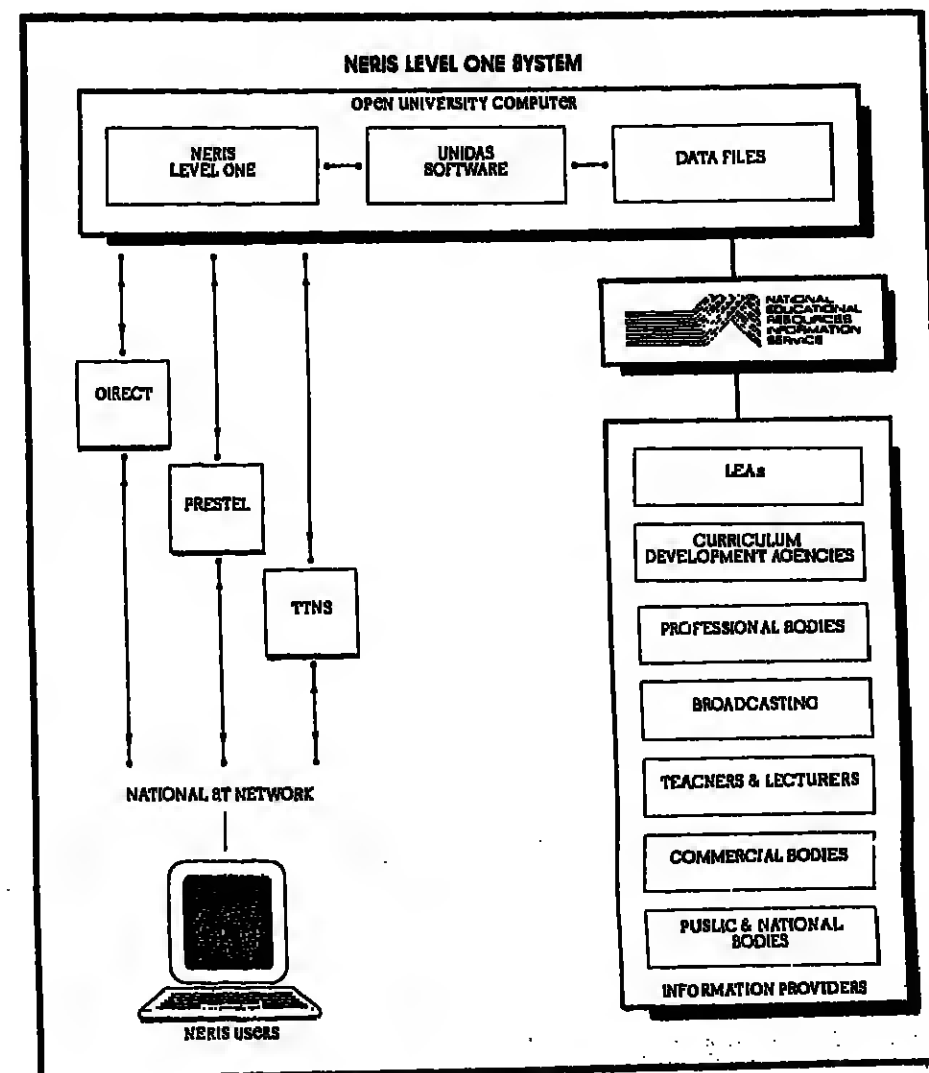
Access to NERIS utilises computer technology already found in the majority of schools although many will need to acquire modems and should consult their LEA before purchasing this equipment. In the near future it is intended that users will be able to make a direct dial call to the database. In the meantime access is available to subscribers to both PRESTEL EDUCATION and TTNS.

The cost of using NERIS is limited to that of a local telephone call. To enable a wider audience to sample the database, the DTT has arranged to pay all network charges for users of the direct access which will be trialled this summer and should become more available in the autumn.



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## HARDWARE

Educational discounts – what are they really worth?

## Cost cutting

GEORGE ROBINSON

**D**iscount is a word that seems to make even the strongest marketing executives cry. Most micro manufacturers offer substantial discounts to schools and education authorities, but few are happy to be pinned down on their precise policy regarding educational purchases.

Not surprisingly, the companies with the largest profit margins on their computers also offer the largest discounts, but some of the companies with more competitively-priced machines value educational buyers highly enough to cut their margin to the bone in an attempt to get their brand of machines into the hands of tomorrow's business customers.

Apple are the most aggressive company in terms of percentage discount offered to schools, but their products are so powerful and expensive that only secondary schools and colleges are likely to consider them. At the other extreme the only company which failed to respond to our request for precise details about educational discounts was Amstrad, which has the reputation for selling computers at the lowest possible price. The only advice here is for schools and I.E.s to contact Amstrad dealers direct to see if the dealer values an educational order sufficiently to offer a discount.

At the low-end price range dealers' own margins on microcomputers are unbelievably small. On a £460 PC the dealer's profit is unlikely to be above £50 and this leaves very little room for

serious discounting.

Research Machines proved exceptionally coy and diffident about their pricing policy but finally they produced answers which indicate that they are more prepared than most to work with schools on restricted budgets.

"We have three price lists, a commercial list, a government list and an education list," David Jay, Marketing Executive at RML told me. After some consideration he added: "Actually, come to think of it, we have four lists because we also publish an A4 price list for schools on the Nimbus PC-1 computer which is different from the education list." He wasn't exactly able to establish what the difference between the education price list and the school price list was and he later added a further complication of a separate price list for primary schools.

So, RML have five price lists for their machines. The company's pricing policy seems to resemble British Rail's marketing tactics of confusing the customer while offering some genuine bargains.

Commenting on larger orders, David Jay added: "We do have a fixed scale of prices for I.E.s but we will always negotiate on a very big order, even though we always operate the same pricing policy between I.E.s."

We don't allow our dealers to sell to education, we do all educational sales ourselves.

"As a rough guide, our prices to education are about 15 per cent lower than to the commercial sector, but we

also bundle software and networks with educational products, so the benefit is even greater.

"Our educational price list is really for institutions other than schools. Primary schools are offered a different price from secondary schools because we realize that they can't afford too much. We have a strong position in this market and we try to accommodate schools as far as possible. The schools market is very important for us."

The lesson to be learned from RML's response is the same lesson that a seasoned DHSS claimant eventually learns. It is important to go on asking: RML appear to have some very attractive deals to offer.

On the other hand the company with the firmest policy about prices for computers in education is Apple, who are prepared not only to talk in detail about discounts, but to offer firm prices on its products.

"We have a very positive attitude to discounts for education as we have traditionally had a very strong presence in education around the world," explained educational marketing executive Steve Johnson. "We offer very substantial discounts to schools and educational bodies and we have a fixed policy regarding discounts. We tend not to think in terms of overall discount percentages, but rather establish an educational price for an item and stick to it."

"Our best-selling machine is the Macintosh Plus which has a high street price of £1,995 plus VAT. For schools



ordering between one and five units we offer this machine at £1,095 ex-VAT, between six and 17 units the price is £995 and if a school wants 18 or more machines the price drops to £895.

"For our more expensive hardware we have three prices: a retail price, a price for education generally and an even more generous discount for educational institutions which are members of the Apple University Consortium. For example, a business user will pay £5,495 for a Macintosh II with a 40 megabyte hard disc, an educational institution will pay £3,795 and if that institution is a member of the consortium the price drops to £3,595. All prices are excluding VAT."

Apple are pleased to supply potential customers with printed lists of educational prices, but these dramatic price cuts reflect the fact that all microcomputer makers Apple have been able to maintain the highest profit margins. Despite this, the Apple Macintosh range offers many facilities unavailable on other types of micro and the discounts for schools are very generous.

Acorn, the company that benefited most from the government's 50 per cent subsidy for school micros, which ran between 1982 and 1984, are today distanced from direct contact with the educational establishment, even though the BBC micro remains one of the most popular primary school computers.

"Acorn does not sell microcomputers or related products directly to schools but operates through dealers and distributors," said Gillian Ford of the company's PR agency. "It is the dealer who really decides what discounts will be offered to schools and education authorities and that discount is based on a number of criteria. As some I.E.s have their own servicing and support facilities this will obviously be reflected in the discount a dealer is able to offer, but in general our dealers are prepared to offer between 15 and 25 per cent discount."

"Other factors which affect the price to schools include whether the dealer is selling just one three-box system or whether there are a number of systems and software involved. We don't lay down a policy for our dealers and we don't publish any price guidelines."

After these three important educational suppliers there are any number of other micro makers who are keen to see their products in schools and make efforts to lower prices for education. Tandy were once a major force in educational computing, but they have steadily slipped back in market share and progression to the point where they are now simply another maker of low-cost PCs. Despite this, the company's UK head office in Walsall maintains direct links.

"For microcomputers we have a direct sales department for schools which offers a minimum of 15 per cent off the list price to educational establishments," said Harry Warburton, Tandy sales consultant. "We look at each request individually and make a price list for the order. Some items on our price list will be reduced more than others, so it is impossible to give an overall range of discount terms. On the other hand, we are able to offer

prepared to negotiate."

Apricot is another well-known company which has suffered severe setbacks in fortune over the last couple of years. These British-made machines are used extensively in further and higher education and many secondary schools have Apricot machines which have served them faithfully for a number of years.

The company proved particularly reluctant to provide specific details about discounts on hardware prior to educational users; "We do have direct contact with schools and colleges in educational orders but we channel all eventual orders through our dealer," said an Apricot spokesman. "We make the value of direct contact between ourselves and educational institutions, but we always choose to supply via a dealer even if we have finalized terms before then happens."

"Our range of discount is wide between 14 and 30 per cent, depending on which items are concerned and the value of the order involved. The smallest discounts are offered on the low-end micros, such as the entry-level 286 PC, but on more powerful hardware there is a larger discount."

Our survey also took in companies such as Commodore and Atari. Both are doing particularly well at the moment and like several other makers prefer to leave decisions about educational discounts to their distributors and dealers. Commodore are currently formulating a new policy for selling into the educational market and are about to publish details of the discounts their dealers will offer to schools in future.

Perhaps the final word about the discount jungle in micros belongs to Stuart Smith, Sales Manager of the largest wholesalers of educational micros in the country. The company distributes micros and peripherals from such makers as Acorn, Philips, Atari, Compaq, Puma, Victor, Zenith and Microvitec.

"Manufacturers have different policies regarding discounts for educational customers," he explained. "In general there are three price structures. A price to customers at retail, a price to education and a price to dealers. Profit margins are very tight on microcomputers, between £1,000 to 15 per cent on computers up to £1,000 is typical, and that means that dealers and distributors are very limited in the discounts they can offer. As a general guide I would think that a discount for schools of between 10 and 15 per cent is typical."

"A big educational order for us is 500 or 1,000 machines and we are naturally prepared to negotiate on large orders such as these. For example, on large orders of micros, say up to 500, a school is likely to go to a local dealer but that dealer is not likely to have sufficient funds to be able to fulfil an order for a large number of machines. The buyer will then usually contact the maker and depending on their policy they will probably put the local dealer to us."

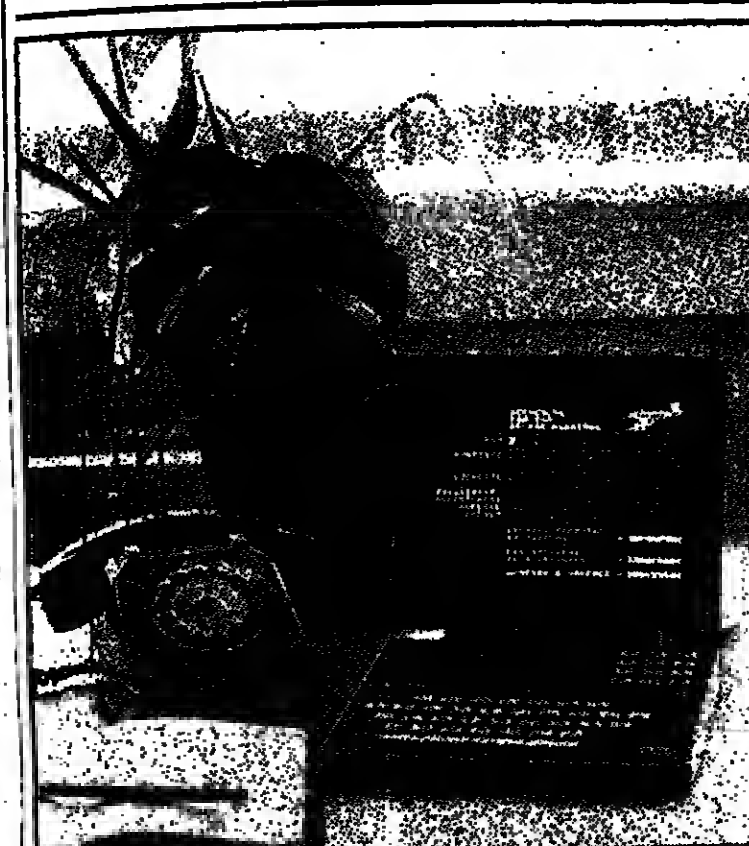
"Now dealers have got full servicing facilities so we often end up servicing machines even if they have been supplied via dealers. Our role as distributor is to support both end user and the manufacturer in the field."

## OVERSEAS

Minitel is the latest craze in France for teleshopping and banking, but what can it offer schools?

## Allo, 'allo!

GEORGE ROBINSON



In the last year over 50,000 French middle schools have been given free videotext terminals and telephones by DGT, the nationalized French telecommunications authority. The French school network is now more comprehensive than those provided to British schools by Prestel and the Times Network System (TNS), although it offers no on-line learning resources.

The initiative started at the beginning of 1986 and will continue in phases until all French schools are provided with at least one "Minitel", the specially-made terminal for videotext and telecommunications.

Each terminal costs DGT 1,600 francs to install (about £160) and although schools have to pay their own local telephone bills when they access Teletel, the national videotext service, most of the services of interest to schools do not carry additional charges.

At first glance Teletel looks very like the British Prestel or TNS, with large colourful "pages" of information, but it is far broader in scope and much quicker to use, and because of massive government backing it has already become a national success.

Over 2.3 million Minitels are now installed in French homes, businesses and schools compared with 85,000 Prestel and TNS users in Britain and 60,000 videotext users in Germany. There is a massive clamour from the general public to replace their conventional telephones with Minitel terminals and DGT is finding it hard to keep up with demand.

For most domestic telephone users the two great attractions of Teletel are the electronic directory enquiries and the home banking and shopping facilities. The whole of France's directory system is now computerized at five regional centres and Minitel users at home are able to search the directory in many different ways at high speed.

Despite carrying information on over 24 million subscribers in its databases, the Teletel system takes only a quarter to half a second to provide information. Users can find telephone numbers and addresses by specifying a name only, a street or a profession. They can see details of all the telephone subscribers in a particular street at the touch of a button and search France for a subscriber even if only part of a name is known.

Banking and shopping facilities on the Minitel system are many and varied, with all national banks offering an "at home" facility for paying money in and checking statements. In addition, many commercial enterprises advertise on the network and customers can order a wider range of goods for direct delivery.

The object in providing Minitel terminals for the nine to 14 age group has been to broaden pupils' use of microcomputing and on-line communication. Although most French schools have several computers, the initial French government scheme to provide micros for schools, which started in 1982, was beginning to run out of steam with both equipment and software showing their age. The Minitel initiative has replaced the need for the government to supply the schools with modems, but those which have them can access the national network with standard micros running videotext software.

Although the national French curriculum agency does not use Teletel network for distributing learning resources or computer materials at present, plans are in hand to do so. In this area British schools still have a lead, following government initiatives to set up the NERIS and ECCTIS databases. Unlike their French counterparts British teachers and pupils can tap TNS or Prestel to download resources or information on material.

TTNS is the closest British equivalent to Minitel, as it was established primarily for electronic mail communication rather than for its database. But it has yet to reach the mass audience achieved by Minitel.

Many local education networks have sprung up in France following the provision of school Minitel terminals and these are operated by both pupils and teachers for the exchange of information and software. Several major educational publishers also offer their goods via the Teletel network. In most instances teachers or purchasing authorities can dial up and order resources on-line.

But for pupils the most important feature of Teletel is the national "Chatline" facility, the on-line electronic mail noticeboard which allows schools across the whole of France to pool their ideas and knowledge on given subjects via the Teletel service.

In classroom use, a message or essay on a particular subject is prepared off-line and when it is in a form considered fit for transmission, Teletel is dialled up and the "document" placed in either a private message box for one particular recipient (perhaps another school) or one which can be accessed by any school interested in the same subject. The document can include both text and software. Pupils pursuing particular projects can then dial up to see if there is any new information on the subject.

The end result of the experiment is that middle school pupils in France now generally regard the computer as being integral with telecommunications. In British schools the majority of computer users still regard going on-line as a "one off" specialist operation, despite the DTI's provision of 12,000 modems last year. In France, they see a Minitel terminal or a school micro as the gateway to a much larger and more powerful national facility.

## HARDWARE

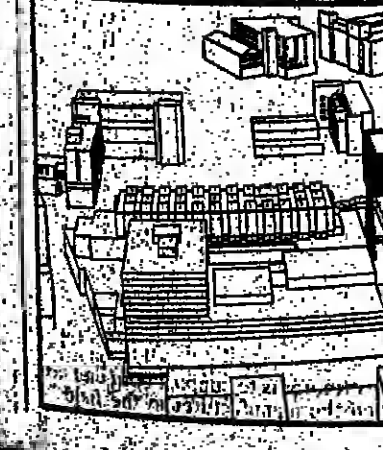
Take a computer, a database and a video camera  
Fly your magic carpetThe Glasgow Experience  
VHS video (11 minutes)

On free loan from Architecture and Building Aids Computer Unit Strathclyde (ABACUS), Department of Architecture, Strathclyde University, 131 Rottenrow, Glasgow G4 0NG

Most systems that claim to provide a realistic travel actually confine the traveler to a number of pre-ordained journeys. What is unique about this three-dimensional model of Glasgow's city centre is that there are no restrictions; within the area that has been digitized, you can fly your magic carpet over roof-tops, land on pavements and wander into buildings at will.

The sequence you see in *The Glasgow Experience* should not be mistaken for a film of traditional computer animation. What you see is exactly what the computer screen displays in real time, not a sequence of still frames shot one at a time and speeded up. That means that instead of confining you to the sequence frozen when the camera was set up, the system lets you choose any route you like. The video conveys the powerful freedom that this technology confers on its users.

In the video, ABACUS Director Tom Mayer explains the process of modelling a city clearly and, no-



JACQUETTA MEGARRY

technically. The project began a year ago when Rutherford and Appleton Laboratories lent ABACUS an IRIS colour graphics workstation (produced by Silicon Graphics Ltd). Its super-microcomputer has dedicated graphics processing so fast you think you're watching real-time animation.

The process of building up a realistic detailed model of the city centre is intriguing. Ordnance Survey maps provided the basic terrain; the team then digitized the road network and floated it down on to the contours. Capturing the geometry of the buildings was the hardest part. Ground plans were easy to obtain, but estimating roof heights needed ingenuity. In addition to a Scottish Development Agency survey of the merchant city, the team scaled up measurements they made on a wooden model built by Glasgow District Council's planning department. Missing information was filled in with a cunning stereoscopic technique based on aerial photographs held by Strathclyde's Roads Department.

Collecting, digitizing and editing all this data is a naturally time-consuming. With seedcorn money from Glasgow

Action – an independent group of private and public sector leaders chaired by Sir Norman Macfarlane – much of the spadework was done by students as vacation jobs. Many of them have continued to use the system in the course of their studies, confirming its educational potential.

Professor Mayer sees the capture of basic outlines as only the first stage. With suitable sponsorship, much more detail could be added to the building facades and interiors, as well as extending the area covered. And the more detail the database contains, the more scope it has for attracting fresh sponsors and applications.

The power of this system is worth seeing at first hand, but the hardware costs £25,000 plus. ABACUS can arrange for organizations to benefit from this unique database. Suppose that a property developer is interested in a particular group of buildings. It could ask to "fly" a specific tour over, around and through them and ABACUS will shoot a video of that trip. The system has immense scope as a professional tool for architects, planners and developers, clearly; but it also suggests tremendous applications for the teaching of geography, map-reading, perspective drawing and awareness of buildings and city centres.

Glasgow is the first city in Britain to have been modelled in this way, and the system has attracted interest from abroad. From Bordeaux to the United States, there are plans for a pavilion at next year's Glasgow Garden Festival with three workstations, and a video projector; visitors could explore the city at will, or opt for one of a number of guided tours – a surrogate walk around the historic merchant city, or a whistlestop visit to all the Charles Rennie Mackintosh buildings, for example.

ABACUS wants to hear from people who might use or contribute to the database. Their video is not merely a fascinating glimpse of high technology in action; it also provides important insights for the future of teaching any subject in which shapes, buildings and cities are important.

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## OVERSEAS

Didactograms from Belgium, hypertext from the United States, and software design from Canada

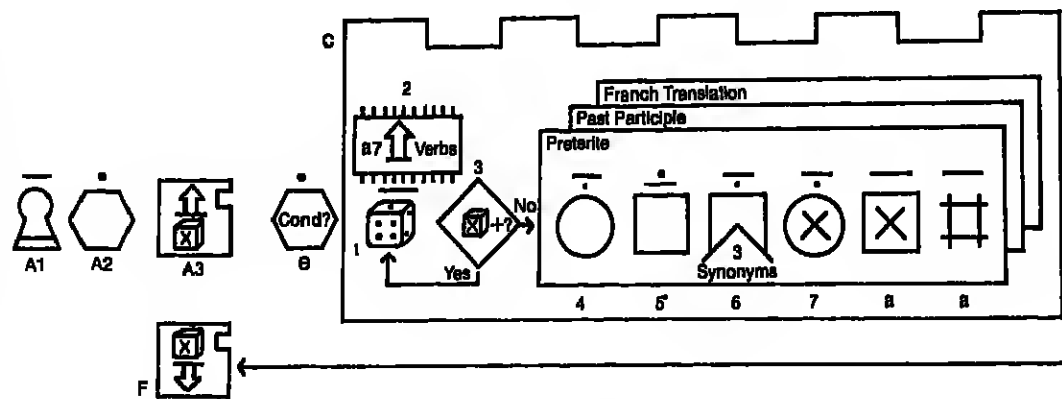
# Nation shall speak unto nation

A few weeks ago representatives of six of the EEC member states met at the NFER headquarters in Slough to organize a joint conference on word processing and literary skills which will be held in 1988. Funded by the EEC, and organized by Frank Potter of Edge Hill College of Higher Education, the group tried to identify key issues and people working in the field - particularly those developing materials in the classroom.

At the conference, it became immediately obvious on talking to some of our European counterparts that, having taken a wide lead in computers in education, Britain is going to have to work hard to keep up with developments across the waters. Some of this is due in part to their late start and consequent adoption of 16-bit technology while we remain based on eight-bit machines and large. But also it seems that, post-MEP, things have gone off the hilt a little.

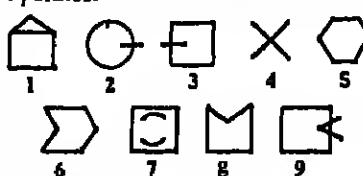
One very interesting concept that was discussed outside the main meeting was that of the didactogram, invented by Dioudonne Leclercq of the University of Liege, Belgium. In order to know precisely what functions are performed by a piece of software, you have to execute it completely. This is similar to tracing the electrical network of a large building by switching on and off all the lights and testing all the wall plugs. Didactograms are intended to eliminate this, rather like the circuit diagram of the building.

Didactograms are, in essence, a pictorial method for representing the structure and content of a piece of educational technology - not just software. In the words of Leclercq, they "provide an overall view as well as a detailed view... of the educational functions performed by courseware... and facilitate the conception and evaluation of courseware... on the basis of educational psychology... by means of a pictographic system at two levels... which is simple, efficient and open." His work could be seen as an extension of both ITMA drive charts for computer software and the method of interaction analysis created by Flanders that most teachers



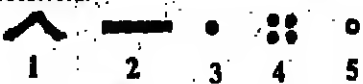
will have met during training.

A didactogram is made up of several small pictures which belong to nine of a dozen or more families. Thus, the following are all concerned with the way a piece of educational technology operates:



- 1 Information transmission
- 2 Questions
- 3 Answer
- 4 Feedback
- 5 Decision
- 6 Search for information
- 7 Withholding possession of object
- 8 Consulting information
- 9 Giving an object

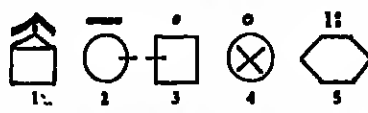
The following represent actors and receivers:



- 1 The teacher
- 2 The computer program
- 3 The student
- 4 A group of students
- 5 The physical environment

## MIKE THORNE

A combination of these can already represent quite complex activities:



- 1 The teacher presents some information to the student
- 2 The program asks a question (supposedly of a student)
- 3 The learner answers a question asked by a program
- 4 The environment delivers some feedback to a question
- 5 A group of students makes a decision

A complete didactogram for a drill and practice program would look like the chart at the top of this article, but the scope is by no means limited to drills.

On the same grapevine came news from across the Atlantic. In the United States, it seems, exciting work is taking place with hypertext - information presented on a computer in such a way that the "readers" can change the structure of the text to suit themselves. Thus, hypertext would enable you to read a book much more efficiently.

The book might contain several levels of information - introduction, more detailed chapters and appendices - to allow for the extent of the knowledge. Several types of reader will bring to the book. But hypertext would enable the reader to switch instantly from the introduction to several different levels of appendices.

In one American study, instructions for repairing the M1 army tank were compared for effectiveness using the traditional technical manual approach: "To form column one: a. assemble three large blocks and to end; b. attach a small block to the tab end of column one," with a hypertext representation of the same information. Using the hypertext system, readers could touch a word from the instructions displayed on the screen and receive a blowup picture of the relevant component showing that component *in situ*. Imagine the benefits this could bring to purchasers of self-assembly furniture which always seems to have unfathomable instructions.

Early indications are that hypertext could prove ideal for increasing retention of the knowledge contained in the text as well as offering other measurable benefits in the reading process.

Also from across the Atlantic, but enjoying a considerable take-up in the Scandinavian countries, is the method of designing computer software in-

vented by Kel Crossley and Les Green of Ontario, Canada. Their book, *Designing Computer Lessonware*, is the result of four years' work with more than 250 teachers and software designers. Financed by the Computers in Education Center of the Ontario Ministry of Education, according to them, software should be designed in sequence of steps: "choose topic, design concept; market the design; design screen design; key screen sequence; list of commands; conditions table for key screen; reaction table for key screen; minor screens; list of information needed; logic and rules; teaching notes."

Perhaps the only one of these that requires further explanation is "market the design". As Crossley and Green point out: "Universally, a market is a place with a central space where people walk at will, choosing the shops or booths that they wish to enter, selecting the route they wish to follow and making their choice of things to do or buy. Within the limited what is available in the district... each person interacts with the open structure of the marketplace according to his needs and interests... A flow chart didn't reflect the unity of a concept that must underlie a lesson. Nor did a flow chart show relationships among the various sub-sections in the context of that overall unity. A diagram of a market did."

This non-nonsense approach is typical of the book, which contains eye-catching illustrations to push its points home. And what is said is applied in examples to designing everything from drill and practice programs, through training packages to more open-ended simulations.

*Designing Computer Lessonware*, Lessonware Services Incorporated, 38 Longdale Road, Willowdale, Ontario, Canada M2N 4H3. Didactograms, D. Leclercq, Université de Liege au Sart Tilman, Belgium B32, Parc 4000 Liege 1, Belgium.

Mike Thorne teaches in the Department of Computing Mathematics, University College, Cardiff.

A Bulgarian conference on children and computers reveals a distinct shift away from the technology

## Voices of caution

### NICK RUSHBY

Bulgaria may seem an unlikely venue for an international conference on children and computers, yet Sofia, at the crossroads of the Balkans, is well placed to attract delegates from both West and East, from the developing as well as the developed countries. The adjective "international" is often used to denote a token representation from a few other countries; a conference such as this, with 400 delegates from 44 countries deserves the description.

In this setting, some of the contributions and ideas rose above the routine descriptions of work in progress. In strong contrast to conferences held in the UK and Western Europe, there was an active concern for the creative, cultural and social aspects of the information age.

There is a perceptible shift away from concentration on the technology towards a concern for people. Some years ago Seymour Papert was encouraging children to "love" their computer. In his introductory keynote address, In Sofia he had moved his position, advocating that there should be a love of learning and of fellow learners. Other invited papers echoed a humanistic concern for the basic aims of education in the information age.

Three debates held during the conference, championed the proposition that information technology reduces interpersonal skills, that information technology is divisive, and that more "intelligent" (and therefore, presumably, more effective) computer-based learning systems will damage the social skills of children. These led to discussions of the role that will have to be taken by teachers in the information age.

benefit - not to our disadvantage. The debate on the divisive nature of information technology was predictably heated and looked at the widening gaps between developed and developing countries; between those schools and families with computers and those without; and the problems faced by girls (and women) in getting access to computers.

Male idealism confronted female realism; male logic opposed female emotion; and male optimism was set against earthly female pessimism. There was no disagreement that the gaps - social, political, economic, psychological and physiological - existed and there was unanimity that we should strive to close them. The question was whether information technology is a major culprit? Could the computer be held responsible for the gaps that have opened up in our civilization over hundreds of years? And could it be used to bring us closer together? Do we have the political and social will to reduce the gaps?

Realism, pessimism and emotion won the day, but in the long term it will be our children who are the winners - or the losers. If there is to be a solution, it will not be through producing vast numbers of very cheap computers and pouring them into the gaps, but by building bridges between the haves and the have-nots, by involving everybody in these activities instead of polarizing an elite.

The conference of both learning and teaching provided a focus for discussions of the future shape of education and the need for lifelong learning. We should not think that the UK has a monopoly of thought in this area. Academician Andrei Ershov from Novosibirsk identified the persistence of the current classroom paradigm as one of the problems in reforming the educational system in the Soviet Union, and described the steps that are being taken to move towards a more flexible system.

A key message to emerge from the conference was that the educational needs (both in learning about information technology and in learning with information technology) are continually changing. We have to find ways of meeting and helping children to meet this evolving challenge. We should also pay more attention to the needs, problems and anxieties of the teachers in the information age.

Information technology offers the potential for a rich variety of learning environments - environments which will help learners to construct knowledge from information, as the best step in achieving understanding and, finally, wisdom. It offers individuals the opportunity of reforming their own educational aims and aspirations, and offers society the opportunity to provide and support a lifelong learning future.

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Mike Thorne teaches in the Department of Computing Mathematics, University College, Cardiff.

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## OVERSEAS

From America, commercial programs at a fraction of the price

# Share ware

Public domain and shareware software looks like taking off. For those using IBM-PCs, one of the many cheaper compatible clones or a computer capable of running PC-DOS or MS-DOS software, this is good news. Public domain and shareware computer programs are an American phenomenon aimed at making a wide range of software available at low or nominal cost. Some commercial programs priced at £70 can have a public domain equivalent costing £3 - £9.

The public domain programs have been made available to the public by authors who have waived their royalty rights and imposed few or no restrictions as to how their programs are used. You are allowed - even encouraged - to make copies of the programs to give to your friends. If you do make copies, you are asked not to make any changes to the program before you distribute it. Nor should you make wholesale copies to sell for profit.

User-supported programs, like shareware, are often distributed through those in public domain. Those are copyright but may be copied and distributed by the user, the difference being that the author asks for a donation or small fee to enable you to become a registered user if you find the program useful. Registered users receive program up-dates as well as printed and bound documentation. Non-registered users have to manage by printing out the abridged manual provided as a "Read-me" file on the program disc. This can keep your printer occupied for an evening.

Shareware programs have been placed with the public domain distributors by authors or small software publishing concerns as a form of direct marketing. These discs will have a

basic working version of the full program - if you like the program you just send the stated fee to the author or publisher. On receipt of the fee the author will then send you the latest full version of the software, with complete documentation and the offer of free telephone advice. The advice is free, but the telephone calls to New York or California are not. In fact telephone support is not really necessary for most of the programs.

Although shareware is a "try before you buy" scheme, the shareware discs obtained through public domain sources are working versions of the programs, not just samples. Full working versions of the programs marketed in this way have to be good enough to compete with commercial versions costing up to 30 times as much. One shareware disc purchased for £5 is marketed commercially with a few enhancements at £99.

The catalogue for public domain and shareware outlines and lists the 5,000 plus programs. These range from simplified word processors and basic maths aids for young children to sophisticated word processors, spreadsheets and utilities. There are utilities to work with both the computer operating system MS-DOS and popular software packages such as *Wordstar* and *Lotus 1-2-3*. For those who like working with a particular computer

## P D FIDDLER

language there is a good selection of tapes and tutors for Lisp, Logo, Pascal, Fort, Basic and "C".

There are six public domain word-processing programs, including the full-featured *PC-Write* and the sophisticated *New York Word*, which can create contents and indices. *PC-Spell*, a spelling check program to run with these or other ASCII-type word processors, is another original disc.

For anyone worried about his writing style, *PC-Style* can measure the readability of the work as well as any other text input in ASCII format. The parameters of the program can be altered to suit your own taste. Would-be playwrights can use *Screen-Writer*, which works with most popular word-processing packages to create dialogue referred to characters. It also numbers the scenes of a play and adds lighting and stage directions.

*PC-File 3* is a popular shareware program, a menu-driven database manager, which is fast in operation, but easy to use, easier in fact than several database programs to be found in primary schools. The author of *PC-File*, who once worked for IBM,

seems to have the admirable idea of letting the computer do all the work.

*Deskman* is a fascinating memory resident utility. Load it into your computer's memory before you load other programs and it can be called up at any time to offer a selection of useful extras. It provides a calendar for any given month or year, on alarm clock, a typewriter mode, a printer controller, a note pad, calculator and a method of accessing operating system commands. It is controlled simply from menus with icons or using a mouse device. So far no program has proved incompatible with *Deskman*, but any memory resident programs should be treated with some caution.

There are teachers' markbook programs, games and music utilities, all American in origin. There are few UK home-grown public domain or shareware programs at present but this could soon change.

In the United States public domain programs are collected together, catalogued and administered by PC-SIG (PC Special Interest Group) from their headquarters in California and through franchised dealers. A well-organized PC-SIG library has recently opened in the West Midlands and is able to supply a complete catalogue.

Some distributors of public domain software do not carry the full range of programs but prefer to issue their

"own" catalogues instead. This has led to some argument that although much of the PC-SIG software might not be copyright, the PC-SIG catalogue and numbering system is.

The price of public domain software and shareware varies from one distributor to another. In some cases a "library membership" fee is charged and programs are sold to members at £7 rather than an advertised price of £10. It is generally thought that £10 is too much to ask and not in the true spirit of public domain software. The charge should be for materials only - the cost of a 5 inch disc - and a modest handling charge. At present, prices seem to vary from £3 to £8 per disc. The idea of public domain software or shareware is new to many - and unscrupulous dealers could take advantage of the fact that computer users are not used to paying £5 or less for a word-processor or spreadsheet program. It is advisable to check prices with the distributor before ordering.

At present the programs are all on 5 inch disc, but they should soon be available on the increasingly popular 3.5 inch format. For computer users with MS-DOS or PC-DOS, most public domain programs are a bargain.

Public domain software and shareware can be obtained from: ISD Software Ltd, (A PC-SIG franchise), PO Box 872, Sutton Coldfield, West Midlands B75 6UP. Advantage, 33 Myns Close, Chinnor, Oxon OX9 4EW. CPMUGUK, 72 Mill Rd, Howley, Dartford, Kent DA2 7RZ. PC-SIG Store (PC-SIG Authorized Dealer), PO Box 164, Cardiff CF5 3YB.

P D Fiddler is head teacher of Ffrinham Junior Mixed School in Coventry.

## Letter from America

In the keynote address at the "Learnlog in Future Education" conference at Calgary University last month, Professor Brian Gaines reviewed the progress of computer assisted learning (CAL) before an international audience of around 400 delegates. Here, Jacquetta Negarry presents a summary of Professor Gaines's address.

Advances in technology have raised many expectations in education but few have been fulfilled. The computer industry has yet to make the transition from information processing to knowledge processing. Electronics and software engineering are not enough; we need to study philosophy, psychology, linguistics, neurology, sociology, anthropology and education.

The early models for computer assisted learning were based on teaching machines. They gave way to intelligent tutoring systems, which assumed that we could model student behaviour and mental processes. This is an area where over-simplification is dangerous. Given our present state of understanding, it is more fruitful to use the computer system to present a model of the knowledge base, and leave the students in control of their learning processes.

Despite rapid apparent progress in the technology during the last 20 years, the underlying educational model has scarcely changed. The dominant intuition technology and in learning with information technology) are continually changing. We have to find ways of meeting and helping children to meet this evolving challenge. We should also pay more attention to the needs, problems and anxieties of the teachers in the information age.

Information technology offers the potential for a rich variety of learning environments - environments which will help learners to construct knowledge from information, as the best step in achieving understanding and, finally, wisdom. It offers individuals the opportunity of reforming their own educational aims and aspirations, and offers society the opportunity to provide and support a lifelong learning future.

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presume to model the student and try to produce optimal instructional material. This is an extension of the control theory approach which has failed even in industrial control: the problem is one of insufficient data from which to build a model.

Sixth-generation activities are being planned worldwide, with an emphasis on knowledge acquisition, application and processing rather than basic technology. A Japanese report on sixth-generation computing specifies four objectives for promoting knowledge science: innovations in frontier high technologies; economic and cultural advancements; contributions to the expansion of human potential; establishing a foundation for creative science. The proposed research program moves outside the boundaries of information technology, and draws on physiology, psychology, linguistics and logic.

When two people interact face to face, there is a very high "data rate": we absorb both verbal and non-verbal information very rapidly. Even with these advantages over computers, we still find it very difficult to "read" people. Yet many so-called intelligent tutoring systems depend on the assumption that they can behave based on an occasional attempt to model the student's behaviour.

If the sixth generation students in real time, it will need far richer modes of interaction than previously. Advances in robotic vision and hearing techniques could allow computer-based systems to pick up facial expressions, body language, intonation and other cues that humans depend on.

Advances are already being made in the understanding and support for processors of knowledge transfer. The bottleneck in industrial applications of expert systems is clearly that of transferring knowledge from the expert to the computer.

It is difficult to predict the main focus of the seventh generation, but autonomous goal-driven systems will probably form its foundation. The emphasis on knowledge-based systems requires a different model for CAL - one based on systems theory. We cannot understand the total system which human beings. Advances in knowledge whereby knowledge is represented, stored, processed, transferred and applied.

Brian Gaines holds the Killam Memorial Chair at Calgary University. His keynote address is published in full in the 372-page conference Proceedings available from the Institute for Computer Assisted Learning which sponsored the LIFE conference (May 1987) at the University of Calgary, Calgary, Alberta, Canada.

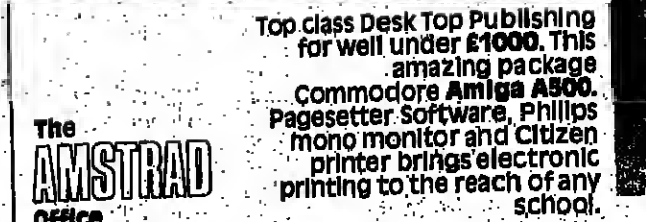
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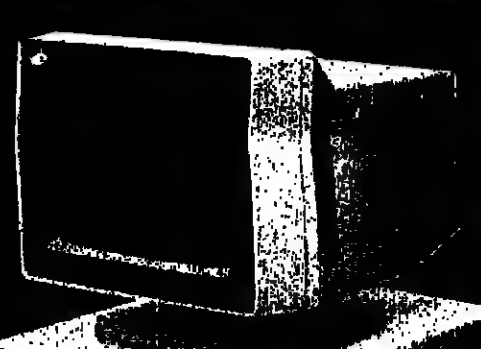
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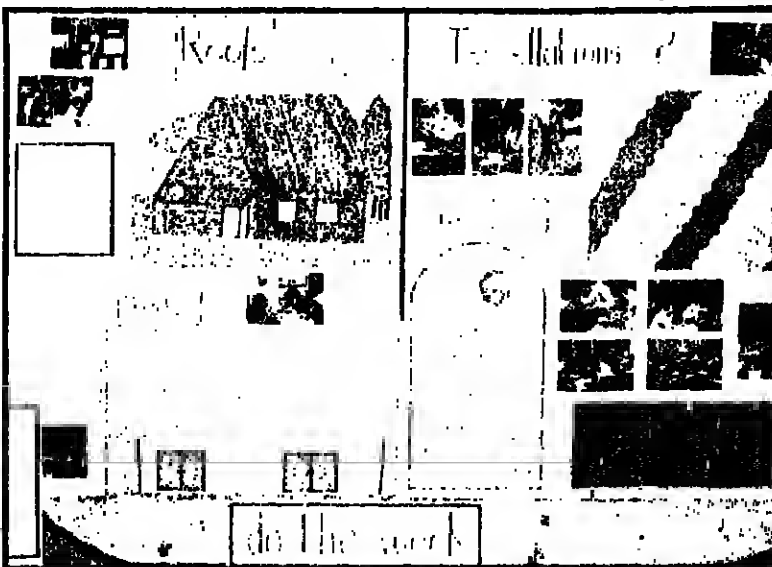


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## OVERSEAS

## UK-USA Microelectronics Project



## Hands across the water

LESLIE RYDER and ALAN EVANS

Between 1982 and 1984 the National Union of Teachers organized a number of courses and workshops on microelectronics and its impact on education. During the courses frequent references to international experience suggested that in computer education teachers in Britain had much to gain from experience abroad.

The result was a two-year programme called the UK-USA Microelectronics Project. This was to examine the impact of microcomputing on schools and colleges in Britain and the United States. The NUT, the National Education Association and its three affiliates in Massachusetts, California and Washington State all agreed to evaluate the implications of introducing computers to pupils aged three to 19.

A one-week seminar in May 1985 brought together 50 people from both countries who were professionally involved with computers in school and college. The majority were practising teachers who were to consider the impact of the microelectronics revolution on their respective school systems.

In the same month, the 22 American teachers spent a week in England or Wales, in the homes and schools of British teachers whose work and interests were similar. These visits were reciprocated in May this year, when the British teachers visited Massachusetts, California and Washington State.

Each participant was to develop a project or piece of action research in a major area of interest to them. Where possible it would be a collaborative venture with their American partners. A second seminar and exchange visit was held in Washington State last month. Developments in computer education over the two-year period were reviewed and teachers presented their projects and findings using a variety of resources from video and software programmes, teaching materials, displays and research papers and reports.

Recent attempts to foster a close relationship between educational theory and practice have encouraged classroom teachers to engage in their own research. Some of it is bound to be individualistic or idiosyncratic, but the reports, displays and presentations at Seattle, illustrated the importance of this approach.

For two years the UK teachers had worked on their projects in the classroom, some in close co-operation with their American partners, others in parallel. Occasionally they even finished with a different project from the one planned, because of the incompleteness of hardware/software or changing school situations. Nevertheless, there were 42 written projects and presentations in Seattle, with a particularly impressive UK display.

The projects in the primary sector ranged from classroom experiments with word processors, new designs of keyboard and "content free" software to a cross-curricular project on design in the primary school, and multi-cultural software created in the classroom. One project encouraged children to explore Logo and turtle graphics, another required them to record their views on reading books, while a third showed how they can exploit the teletext/viewdata systems. All of these projects demonstrated the creative, cross-curricular and child-centred approach of the UK teachers' work, which was achieved with very limited facilities.

One project concerned with electronic mail not only linked schools in Cambridgeshire, but enabled them to communicate directly with Newcastle upon Tyne, Wellesley Junior High School in Massachusetts and a Kibbutz in Israel. The active international dimension had a marked effect on the students' enthusiasm for the project as well as promoting lively communication skills.

With the more mature students, the project focused on three areas - the impact of industry, TVEI schemes and extensive examination of the development of computer courses; a detailed study of how one large secondary school introduced information technology courses across the curriculum; and a look at ways of tackling the alienation of girls from computers in another large secondary school. Given free access to computers and appropriate software, the girls produced their own magazine programme and computer-designed movie.

The same kind of original work was reflected in the special needs projects which showed how computers can offer untold opportunities to those with severe learning difficulties. One study examined the micro-technology experience of a group of UK students over the two years and revealed the need for unity and continuity of provision as children move from primary into secondary education. This situation was paralleled in the USA and highlighted the need for a planned approach to computer education throughout a teacher's professional life.

What was impressive about all the projects was that they were the work of classroom teachers and head teachers, who had not only produced ideas, but organized the work and recorded what had taken place - successes, setbacks and failures. They had each stood back, appraised what they and their students had done and then shown it openly and willingly with others - in their written reports, their displays and their oral presentations.

The two-year programme has extended the knowledge, skill and professional capabilities of all the participants. The findings and strategic insights of the Microelectronics Education Programme, the Council for Educational Technology, the Microelectronics Education Support Unit, and DTT, the progressive local authorities and the NUT have all been of value and interest to our American counterparts. In turn, we have learnt from their more sophisticated approach to standards and evaluation of educational software, their deployment of larger computers and networked arrangements, and their much greater use of computers in educational guidance, careers work and school administration.

Both countries were concerned about the over-emphasis on investment in hardware and the under-investment in software development and the professional development of teachers. Serious concern was expressed over issues of equity and access to computers in both school systems and over the need for school management to reappraise its existing practice. The conference report will be published in September, together with a list of recommendations to central government, local authorities, specialist agencies and teacher organizations. An extension of the UK teachers' projects will also be available in the autumn term, along with a video and 19 published reports. All of these are a testimony to the work of the UK teachers involved and to an exciting model of international collaboration.

Leslie Ryder acted as tutor/co-ordinator to the teachers from England and Wales and is project director of "Focus in Education". Alan Evans is education secretary of the NUT and was the joint conference secretary.

## LANGUAGES

## Basic or advanced programming? Speaking with forked tongues

PETER FELLGETT

An advanced programming language for pupils just starting to use computers sounds like a contradiction in terms. It does, however, now seem possible and could provide a solution to the dilemma between languages that are easy for the beginner to use and those which provide help for more advanced problems.

Academics have long expressed doubts about the language of Basic. Children exposed to it at school may acquire sloppy thinking habits which have to be unlearned at university. It is questionable whether university applicants are disadvantaged if they have not been exposed to computers at school. Computers are tools and it is better to have learnt things worth putting on them than to have acquired skill in using them for trivial purposes. More specifically, it is useful to know something of the nature of a computer program, but better to know nothing than to have acquired bad habits.

Nor is the problem confined to academic computing. The many complaints about the cost and unreliability of commercial software indicate that the need for adequate discipline is not fully understood. While it may be possible in principle to program in a disciplined way in any language, some have positively to be fought. This is pointless when better alternatives are available.

A language like Basic has the overwhelming advantage that it is easy to get started; with a structured language such as Pascal many will be dithered before they have learned enough structure to produce a program that will do anything. There are several teaching languages which aim to make a structured approach more accessible. Logo is probably the best known. Their disadvantage is that they do not necessarily lead on to practically useful programming. The structure and discipline required of a powerful programming language that solves advanced problems are a hindrance to beginners who merely wish to see the computer run simple problems for them.

One solution is to begin on an "easy" language before graduating to a more advanced one, but this has two drawbacks: the need to learn a new computer language and, more seriously, the need to learn how to use the freedom provided by the disciplines of the new language. The distinction here is between learning a programming language and learning how to program.

These are two entirely different matters. To take the analogy of natural language, most of us in Britain know English but this does not automatically enable us to write literature. It is not too easy to go on using a better programming language in the same old way imposed by the defects of the elementary language.

A powerful language will do a great many things for its user, but have to be specified and learned, either by means of a comparatively small number of powerful concepts or by many weak ones. The latter approach seems easier to start with, because each concept is simple to learn, but it leads to a very large number of things having to be memorized, including numerous exceptions and special cases. Powerful concepts, by contrast, may be more

demanding to learn in the first place but each one mastered is a giant step forward, and in the end there is less to learn. A language should not be just a means of addressing a computer; it should be an aid to thought. It is an admission of failure if it requires the user first to solve the problem and then to translate the solution into the computer language. It should not be necessary to derive formulae and ask the computer to translate them into machine operations. Rather, it should be a language in which it is natural to think, and which helps the user solve problems.

The ideal computer language has not yet been invented, and probably never will be. The search for better languages has made the present decade one of changing fashions. The micro-community has moved from Basic to Pascal to C and still searches. Meanwhile, renewed attention is being given to Algol 68, a language whose merits are being increasingly recognized and which has been described as a great improvement on most of its successors.

Algol 68 is one of the most powerful computer languages, but has never been fashionable because it was formulated by an international committee thinking about how to address computers rather than by a computer firm which could give it strong commercial backing. As the name implies it was first promulgated in 1968, at which development continued and a definitive Revised Report was published during 1974-76. It is well known having been used extensively for scientific work and in general, once research establishments, many of the daring "new" languages, fashionable languages prove to be more than special cases of something that was more general and powerful.

A language is more than just a collection of facilities. The way they are put together is vital, and a major contribution of Algol 68 is its demonstration of the extra power given to the user when the rules are clear and consistent, without special cases.

All this may seem a long way from pupils making their first tentative forays into micro, but the link has been made by a new interactive Algol 68 compiler which is now available on micros such as IBM clones, Amstrad or Nimbus. This enables the pupil to start by keying

and since this is a valid Algol 68 construction, the compiler will respond with "2". From there an expert can quickly build up to more complicated arithmetic, generating "damn" sentences, writing a personal calendar, or whatever is needed.

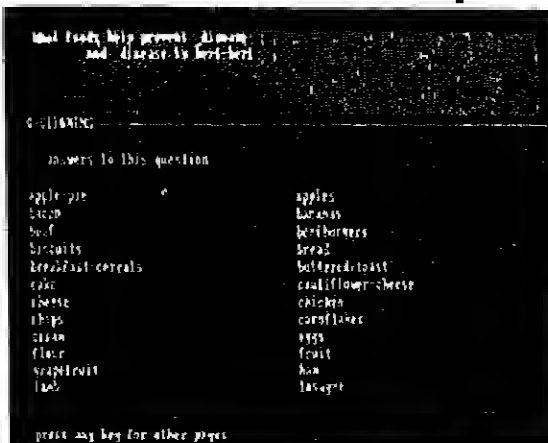
Of course beginners would want a small part of the facilities and power of Algol 68, but they would be starting on a language that enables them to go through to the most advanced users within their needs and talents. They would never need switch from nursery slope language to a more advanced one. It is possible to start as you mean to go on.

Peter Fellgett is Professor of Optics at the University of Reading.

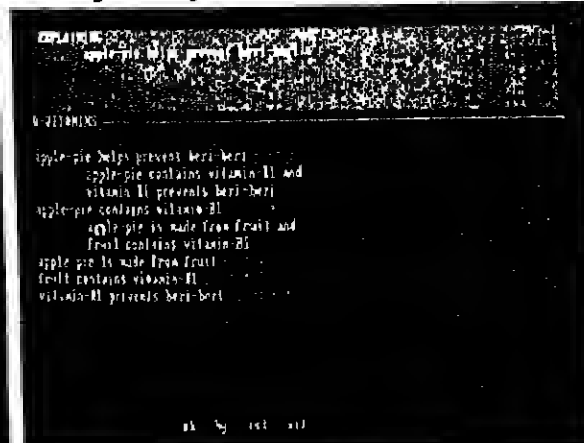


## LANGUAGES

## A starter pack for expert systems



Picture 1



Picture 2

## Prolog's tale

RICHARD ENNALS and JONATHAN BRIGGS

16-bit microcomputers), and in Kingston, developing a starter pack of expert systems tools for use in further education (for 16-bit microcomputers). In both cases the language used has been Prolog, but this does not need to concern the users, for whom "friendly" facilities are provided, including windows, menus and flexible styles of entering information.

ADEX-Advisor, for example, is a simple expert system shell designed for use in education. It allows advice systems to be developed quickly by students, lecturers and teachers. Selected knowledge or expertise is entered into the shell in the form of rules which ADEX-Advisor can then use to provide advice. It will ask the user questions to complete its knowledge, and once advice has been presented, the system can be asked to provide explanation.

It was decided to aim for simplicity in designing ADEX-Advisor. This would enable educational users to make a practical start, but not offer all the features of a large commercial system.

To use the system on Research Machines' Nimbus or an IBM PC-compatible computer, the user simply types "ADEX" and presses the Return key. The screen then appears with a menu of commands, which allow an existing program to be loaded with two keystrokes, one to select the command, and the second to select the program.

One system has been developed to give advice on AIDS. It contains rules such as:

RULE 1  
advice You should take precautions against getting AIDS if you are in a high risk group

RULE 2  
you are in a high risk group if you are a gay man

RULE 3  
you are in a high risk group if you have frequently changing sexual partners

RULE 4  
you are in a high risk group if you suffer from haemophilia

RULE 5  
advice You have no need to worry much about AIDS if you are not in a high risk group

During the interaction the computer will ask questions such as "Is it true that you have frequently changing sexual partners (y/n)?" It will then offer advice and explanations: "You should take precautions against getting AIDS because you are in a high risk group."

Another system called XPOSE helps to diagnose faults in a central

heating system. The user is asked which symptoms apply in his case. He is then asked a series of questions, which the system will explain to him, to help in the diagnostic process. At the end of the consultation a remedy is suggested, with an explanation.

In many subject areas larger knowledge bases can provide a powerful and flexible educational resource. Judith Christian Carter, a former teacher of home economics, now information technology programme co-ordinator for the Council for Educational Technology, has developed a knowledge base for classroom use, concerned with vitamins and diet. Q Vitaminus, as it is called, contains certain rules, as shown in the chart below.

There is a problem, however, for the uninitiated user of a large knowledge base. In order to ask a useful question about the subject, one needs to know

the syntax of Prolog and how the knowledge has been structured in the base, the names and interconnections of the relationships. For this reason a new system was developed. Q, to provide easier access to the knowledge base and make it available as a classroom resource.

The aim is to find out what foods help prevent disease. In particular, the disease beri-beri (see picture 1 above). Having been given an extensive list of foods, we ask for an explanation as to why apple-pie prevents beri-beri (see picture 2).

Educational use of Prolog in the United Kingdom has proliferated through the activity of enthusiasts, as is evidenced by the growing collection of introductory texts, and the experimental use of expert system shells such as Xi, Xi-plus, APES, and ESP-Advisor, all written in Prolog. Schools

are of course frustrated by the lack of sufficient 16-bit microcomputers and of specially-commissioned educational software.

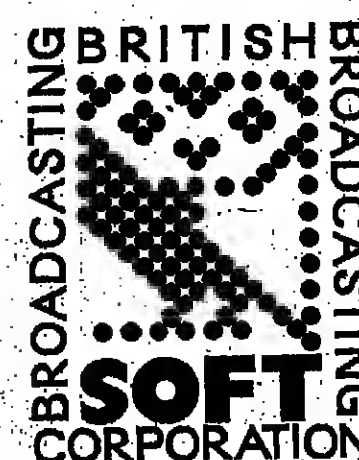
There is a more serious absence of funding for research and teaching, with the new generation of information technology in schools, teacher training colleges and universities, which should provide a sound base for progress. As was recognized by the report of the IT86 Committee, the opportunity is there to build on the advances of the Alvey Programme for education and training.

There is now a sufficient literature and range of commercially available software on educational microcomputers to enable individual teachers and schools to make use of Prolog, but there is no continuing external funding for centres such as Kingston and Exeter. If the plans of the Council for Educational Technology for a national programme supporting work on Intelligent Knowledge Based Systems for schools achieve Treasury funding, then the difficult task of development and dissemination can be placed on a proper footing. Otherwise the work will continue, but only with the financial support of overseas governments and companies, an increasingly familiar situation for British researchers.

Projects on Prolog have involved the Science and Research Engineering Council, Sinclair Research, Microelectronics Education Programme, Further Education Unit, Council for Educational Technology, Manpower Services Commission, Open Tech, Economic and Social Research Council and the Alvey Directorate. Projects have been established in the United States, France, Italy, Denmark, Norway, Sweden, Israel, Australia, New Zealand and Bulgaria.

Richard Ennals is Staff Development Officer at Kingston College of Further Education and author of *Beginning micro-Prolog* (Heinemann 1983), *Artificial Intelligence: Applications to Logical Reasoning and Historical Research* (John Wiley 1986). Jonathan Briggs works at Iba Information Technology Development Unit at Kingston College.

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## LEAs

Lincolnshire — one county's response to the demise of MEP

## Initiatives

At least 75 per cent of the teaching profession and members of the general public could be forgiven for thinking that the catalytic Micros in Schools Scheme launched with such panache in 1980 has disappeared without trace. The demise of the computer magazines which no longer dominate the newsagents' shelf space also reflects this trend of a lowering technological profile, despite the real needs of our nation to become computer literate in a society increasingly dominated by the new technologies.

Lincolnshire is one shire county in this post-MEP period, in which activities that were largely triggered by the pump-priming initiative of the Microelectronics Education Programme are now in urgent need of further central government support if they are to effect curriculum change.

In many ways it has been disappointing that the Microelectronics Education Support Unit (MESU), the successor organization to MEP, has taken so long to come on stream to play its part in the national scene. Although, as a county inspector, I have attended several seminars and presentations to learn of the intentions of the new organization, it still appears to be keeping an irritatingly low profile. The activities and developments described in this article have, therefore, taken place at a local level, but helped through such national initiatives as the DTI Software Scheme.

In his opening address to the MAPE '87 Conference held at Newman College, Birmingham, Steve Bacon, computer adviser for Derbyshire, stressed the importance of developing a five-point package, the components of which local authorities, in partnership with central government, would need to develop in unison to avoid an imbalance. These five components — readily available hardware; quality software; i.e.a. support; INSET; and the provision of learning support services — are all part of the information technology package being developed in Lincolnshire. It is this attempt to integrate the technology into the curriculum fabric of our schools that has made us realize the urgent need for



RON JONES

further help from central government agencies.

□ In such a large county, both geographically and in the number of schools it needs to support, the provision of "readily" available hardware has proved extremely difficult to achieve. Lincolnshire was among the first counties to standardize on the BBC micro, and in terms of technical and INSET support, this has proved to be a blessing. We were able to provide one complete system to every educational institution throughout the county, including colour monitor, disc drive and printer. For some 98 of our small two-teacher schools this has meant one system between two classes, an aim that we would like to fulfil in all our schools. Indeed my long-term aim in the primary sector would be to have one workstation in every classroom to facilitate a policy of continuity, progression and integration.

We are very far from achieving that goal because of the enormous budgetary implications. We have, however, introduced a "matched funding

scheme, which enables secondary schools and the larger primary schools to receive additional support. Despite this, we still have a long way to go before the hardware is "readily available", and until that happens we can expect to see very little effect of the technology in terms of curriculum change. The proof of what can be achieved is in those schools where the senior management and staff's attitude to the use of the technology matches the available resources; then some exciting and innovative changes have resulted. The recently-announced Educational Support Grant could begin to make inroads into this problem which is presumably shared by most i.e.a.s throughout the country.

□ In terms of software support the initiatives that have resulted from the DTI Software Scheme have been very successful, almost to the point of eliminating the problem for the time being. In the primary school sector quality software was provided through the efforts of a group of seconded primary teachers meeting to interpret the

recommendations of the Elcott Puppers. This resulted in the creation of the Lincolnshire Primary Toolbox.

The box contains three sets of tools fitted into a curriculum map; Section 1, the "Foundation Toolbox", lists various areas of skills and divides them into three levels of difficulty. The software in this section is largely content-free. Section 2 contains software which is "curriculum related" and Section 3 contains teacher utilities such as a printer dump and a menu creator.

The box has proved extremely popular among secondary as well as primary schools for whom it was intended and is a good example of what can be achieved from the combined efforts of national initiatives and local support. The work of creating it was centred at MEDU, the Microelectronics Education Development Unit based at Bishop Grosseteste College, Lincoln — a teachers' support unit which is the key to most of the local initiatives. The hidden support contained in both the toolbox and the secondary schools' software scheme is the effort that the staff at MEDU have invested on behalf of schools in negotiating county software licences and processing bulk orders. This has greatly reduced the end-costs to schools and incidentally has established a trend for a most efficient and cost-effective software distribution system.

The schemes also revealed great gaps in the software market, for it was in this post-MEP period that many software houses went to the wall and their place has been taken by i.e.a.-initiated software which possibly lacks the marketing finesse of the publishing houses. Perhaps this is an arena that MESU would care to enter. Medusa is one i.e.a.-originated body that is supporting the needs of not only its own schools but also those in many other counties.

For the moment the software problem has almost been eliminated, but with the introduction of the next generation of computers based on 16 or 32-bit technology, the problem will return, despite the lessons we have learned of "user friendly" front ends and open-access tools. Schools will find it difficult to pay the commercial prices for the sophisticated suites and packages unless special educational discounts can be negotiated — not by the efforts of individual i.e.a.s, but at the national level (another task for MESU?). Perhaps the ambitions of software houses like E2S (see page 74) will come to the rescue of education before the problem develops.

□ Then there is the third component in the information technology package — that of providing i.e.a. support to its schools. This support in Lincolnshire involves all strata of the authority, from the elected members through the director and his senior officers and the teachers in the schools, supported by a large majority of the parent body. The earlier drive for a computer-literate society certainly played a large part in securing this support. It has been translated into action through the release of funding for hardware and software support, for the creation of MEDU, for the provision of funding for INSET and secondments to curriculum workshops for the creation of classroom materials to support the available software and the creation of new software, where there was a need for such developments.

The i.e.a. has also vigorously pursued a policy of IT for all. In order to help the secondary schools come to terms with this concept the county issued a circular entitled "Information Technology — A Framework for Learning". This covers the type of IT course that is possible for pupils from 11 through to 16, and aims to integrate the use of the technology into the school curriculum. The document has been supported by seminars for headteachers, courses and some excellent classroom support materials, "Working with Computers", which have been devised by a team of secondary teachers and published by Medusa. Further materials are at the trial stage and will be made available to schools in time for the autumn term; these are cross-curricular and are based on problem solving.

□ A large measure of i.e.a. support must manifest itself in INSET in many forms. This has certainly been true here. MEDU has run over 100 courses in the last academic year. These have ranged from the very basic ABC (absolute beginner courses) to the specialist ones now demanded by the front runners. Every place of sophisticated software introduced into the county requires the support of INSET if it is to be effective in the classroom. This is very expensive and time consuming. So in the primary sector we have established a "key school" system of some 14 schools which serve the needs of a cluster of schools within their vicinity. The "hubs" have had staff specially trained and have received extra resources to enable them to carry out their agreed responsibilities.

This shift from central provision has enabled us to introduce a Lincolnshire IT Certificate scheme to serve the needs of our teachers. It is offered at three levels. The advanced level includes a large element of pupils' work to match the developing skills of the teacher. The scheme is modular and skill-based. Although it is proving popular, it is bound to be affected by the new GRIST in-service training scheme. Perhaps when it has had time to settle down its effects will not be quite so dramatic.

As in many large counties serving the needs of a scattered population, it is important to distribute the available support as fairly as possible. We have, therefore, in partnership with Medusa and Ruston Gas Turbine, commissioned a Mobile Technology Unit based on a converted single decker bus given to the consortium by the Lincoln Roadcar Company. The unit is based at MEDU but works at locations around the county. It is proving an extremely valuable asset as cross provision moves towards school-based INSET.

□ The fifth and final component of the integrated IT package is the creation of quality resources to support learning. The creation of classroom support materials is important — either a necessary software or in which software can nest as one component in the learning materials. All the materials that have been produced by Medusa have resulted from teachers being seconded to curriculum workshops on the basis of either one day per week over an academic year or, in the case of primary teachers, fulltime for one term. In addition to MEDU, the county in partnership with a benevolent benefactor has created the purpose-built Brearley Languages Centre which is in the process of creating learning support materials but has got towards the specific needs of modern languages.

Despite the declining public profile of information technology since the demise of MEP in spring 1986, the energy that was released by the initial pump-priming exercise has had its effect in more than one i.e.a. However, we are now in need of further help from central government agencies. I hope that MESU will soon emerge to begin to fill the vacuum left by MEP. It is vital to re-establish the partnership with i.e.a.s if the school needs are to be properly provisioned. A high public profile is again needed to establish in the minds of the general public, as well as of many teachers, the importance of information technology as an applications tool. The city is quick to learn; education awaits its "Big Bang" — and the necessary funding.

MAPE, Micros and Primary Education Details from MAPE Administration, 76 Holme Drive, Sudbrooke, Lincoln LN2 2SF (tel: 0522 754408). Lincolnshire Primary Toolbox. Details from MEDU, Bishop Grosseteste College, Newport, Lincoln (tel: 0522 44713).

Medusa, MEDU Software Associates Catalogue of resources available from MEDU. IT Framework for Learning and Working with Computers Teaching Pack Available from MEDU. E2S Ltd (European Education Software plc), 8/9 Bridge Street, Cambridge CB2 1UA (tel: 0223 462200). The Brearley Languages Centre, St Georges School, Westholme, Westwood, Sleaford, Lincs (tel: 0529 302487).

Ron Jones is Education Inspector for Microelectronics in Lincolnshire, member of the MAPE executive, member of the Computer Association, Lincoln Group (CALG). The views expressed in this article are personal and not necessarily the views of the Lincolnshire LEA.

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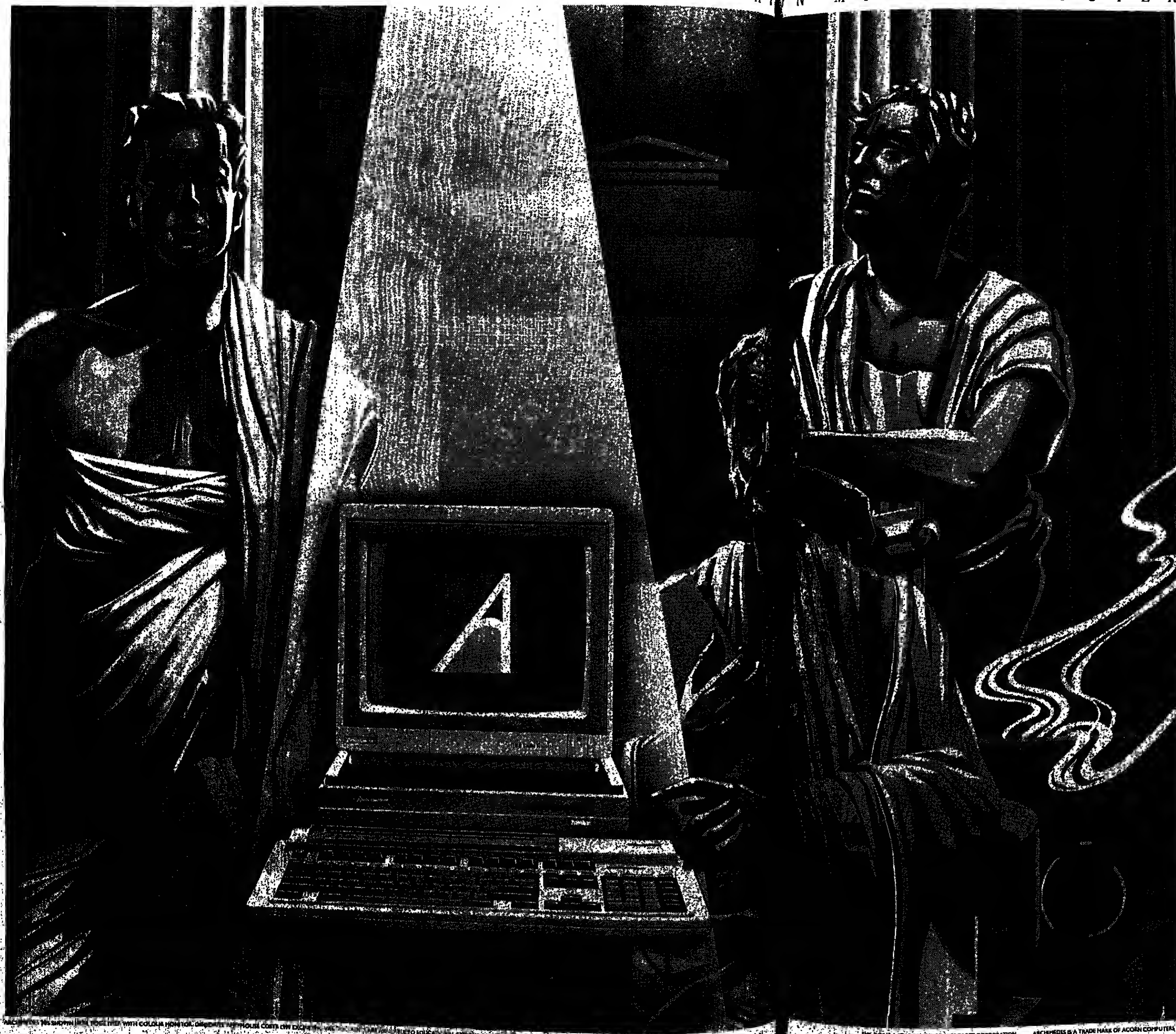
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ATLAS 386	BASIC	1.4	1.00	1.4	1.0	1.0	1.0	1.0
ATLAS 386	BASIC	1.4	1.00	1.4	1.0	1.0	1.0	1.0
ATLAS 386	BASIC	1.4	1.00	1.4	1.0	1.0	1.0	1.0
ATLAS 386	BASIC	1.4	1.00	1.4	1.0	1.0	1.0	1.0
ATLAS 386	BASIC	1.4	1.00	1.4	1.0	1.0	1.0	1.0
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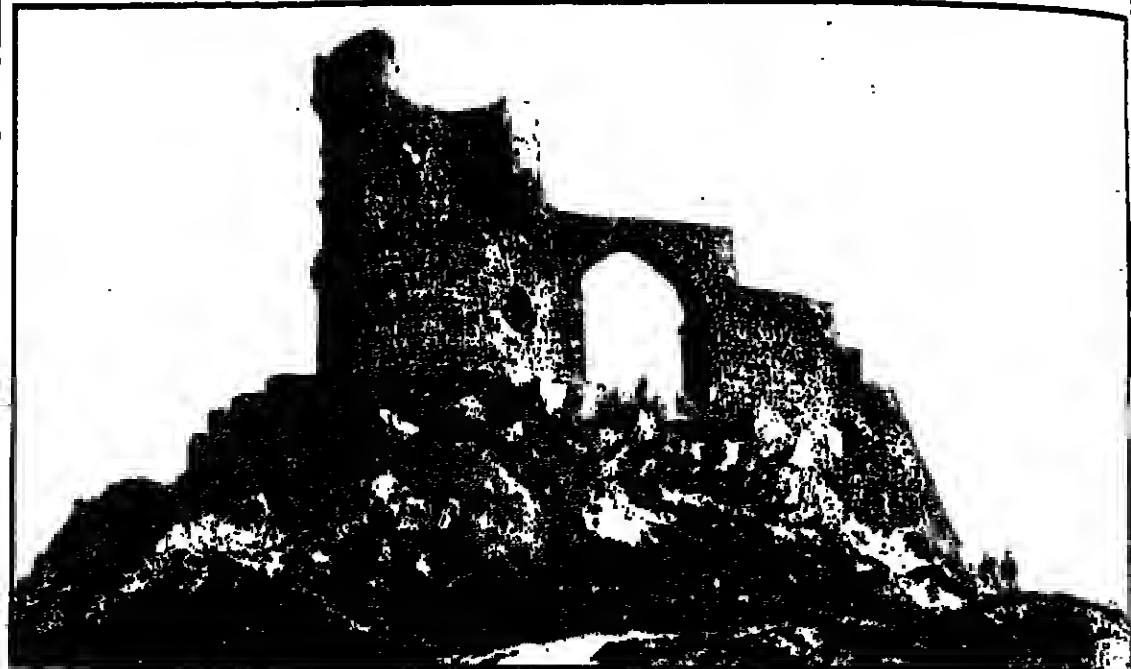
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## LEAs

Staffordshire - the foundations are now in place



## Rolling on

MICHAEL GRIME

Over the past five years Staffordshire has become increasingly well known for its efforts to ensure progress in the use of computers and information technology across the curriculum. Thousands of secondary pupils are being educated in schools which can provide a whole range of IT facilities. As teachers return from a rolling programme of in-service courses, they are bringing about change in content and new approaches to their teaching.

Throughout the county high schools are being encouraged to develop whole-school policies in relation to IT. As these are refined and presented, and as more staff are trained, phased development projects are providing hardware and software support.

In 1981 the Staffordshire pattern of computer provision was negligible. Worse still, the systems they were in use varied greatly in type and reliability and offered little scope for co-operation between schools. Our only college of education was to be closed, yet we had 9,000 teachers who ultimately would all need to be trained.

Fortunately our teachers were keen and prepared to work long and hard to make progress, and we had an education committee that was determined to support them. This made it possible to draw up a rolling development programme for the introduction and development of computers, microelectronics and information technology across the curriculum. The needs of all pupils between the ages of 5-18 were considered, as from the outset, this was a broadly-based, subject-free project. Another guiding philosophy was a recognition of the key role our existing teaching force would have in the 10 to 20-year process of change that was envisaged.

At the heart of our programme we created a team of advisory teachers, a multi-disciplinary group of imaginative and energetic men and women. Primary, special, middle and high schools were all represented. At a subject level we were able to represent history, CDT, maths, computer studies, science and geography. Effectively we intended to offer help and assistance to any teacher or school that wished to use the new technologies.

Priority had to be established. Our initial target was secondary teachers and pupils who were to be provided with a networked system of 16 computers housed in a purpose-designed area. This provided practical facilities for whole classes of up to 30 pupils and acted as a source of disc-based systems for use elsewhere in the school. In addition, a wide range of training opportunities was created. In the main, short courses of three to six days duration were developed and teachers could have some 20 different courses on offer. These ranged from work processing and specification to specialist information handling for seven to 15-year-olds.

From 1981-82, Staffordshire supported all the national initiatives and pursued its own initiatives in the area of

cost to our schools. Aided by the DTI Primary Scheme, all primary schools received four days' training for two teachers and a disc-based system with a suite of "content free" software, including Logo. This was no more than primary teachers needed if they were to attempt to integrate computer systems into good primary practice.

Nineteen-eighty-four saw teams of subject teachers working as software evaluators, serviced by our advisory teachers and central software funding. The outcome was a "County Software Catalogue" containing qualitative evaluations based on classroom trials. This catalogue is provided to all Staffordshire schools and regularly updated. Any teacher in the county can save hours of effort by consulting it.

Now, in 1987, all pupils aged 11-14 follow a modular course called "Computer Appreciation and Information Technology for All". This used to occupy a recommended minimum of 75 hours, but recent authority-funded purchases of "Microelectronics For All" equipment now allow a supplementary 25-hour module. By the age of 14, all pupils should have developed basic skills, understanding and an awareness of the new technologies' potential. These courses are provided by a team of teachers drawn from across the spectrum of secondary departments for their enthusiasm and commitment.

From 14 upwards, pupils naturally opt to take a range of courses and modules, some of which need further access to computers and IT resources. A combination of resources, professional development and syllabus changes has ensured that the quality and relevance of courses has improved over the past few years.

Throughout the 11-18 phase all pupils can enjoy using computers as learning aids via simulations and other subject-specific software. As their teachers require. Most recently we are seeing them developing sufficient skills with word processors, information handlers and other content-free software to help them within school as well as beyond.

Indications are that computer/pupil ratios of 1:20/25 are necessary. Different numbers of variously-sized clusters of computers are being requested. One particularly active school offering 12 throughout the school may well require a computer resources area for 30 pupils, an electronic office for 20, an IT base for 10/12, an open access cluster in the library and perhaps 10 or 15 further freely-based systems scattered around the school.

In Staffordshire, as in many other places, a "round the school" network simplifies access to common software and data files. The new possibilities for communication between rooms or departments embody many of the basic principles of IT as an electronic communication technology and offer the

existing networks and access to it in any classroom through which the cable passes. Pupils can gain access to a "geography" database from wherever they (or their teachers) can see a relevance for the data, perhaps in science. Business education is one of many subject areas that may, with a specific purpose in mind, download viewpoint pages or data from a remote computer. Prestel or our own county host are most used. Later this information can be incorporated into the school's local videodata system for anyone to access for their information or careers or any other subject.

The considerable scope for further development in primary education is widely accepted. While the average provision of resources in primary is relatively low, a number of pioneering research and development schools have almost one computer per class. The quality of work we are seeing from schools concentrating on a few powerful, content-free packages is a great encouragement for the future. The potential of children being allowed to grow with this new means of exploration and communication from the age of seven or eight, if not even younger, is exciting.

Nineteen-eighty-six/seven has been the worst year I have known for schools trying to recruit additional staff. Teachers with the necessary skills have simply ceased to be available in anything approaching adequate numbers. This consequence of developing new skills among the existing staff. Fortunately information technology has, since April, been designated a national priority training area for teachers and explicit funding has been made available under GRIST. Early indications are that the DES have been too cautious, however, and many teachers will be disappointed in the current year because insufficient funding is available for teacher release and travel.

Exciting prospects lie ahead but these will only be achieved with continuing professional development and support as well as resources. The most recent DES news (page 49) of a further "significant" boost for IT in all the above key areas should hearten us all. The scheme should be sufficiently comprehensive and flexible to allow the appointment of in-school teachers teaching assistance too. Anything less than £200 million of local and national funds per year will not allow progress to be made at the pace our pupils and teachers deserve.

To date, it has been local, not opposed to national, funding that has allowed Staffordshire to achieve so much in such a short time. The foundations are now in place and we have momentum to tackle future challenges with confidence. It will not be easy, but it will be a good investment.

Michael Grime is General County Inspector for Educational Computing and Information Technology in Staffordshire. The views expressed in this article are his personal views and not those of the Staffordshire County Council.

## SURVEYS

A report on micros in mathematics offers no room for complacency at the DES

## A tale of two surveys

BARRY JONES and DAVID GREEN

The reports of two quite different surveys on the use of microcomputers in schools were published towards the end of 1986. The first was conducted by the DES in November 1985 and reported rather belatedly in December 1986 (Statistical Bulletin 18/86). The scope was wide-ranging and the sample comprised 500 primary schools and 300 secondary schools. Mathematics was only one area of the applications of micros which was considered.

The second was commissioned by the Mathematics Association subcommittee on "Using the Computer in the Secondary Mathematics Classroom" in the spring of 1986 and findings were published in *Mathematics in School* in November. This more limited survey was based on 52 secondary schools and looked only at mathematics usage of microcomputers.

In this article we have extracted the data from the DES survey which relates to mathematics and compared it to the results of the MA survey. Referring to the DES survey, the DES report states that "micros were most frequently used in mathematics departments, followed by computer studies departments; additionally some of the use in mathematics departments will have been for computer study purposes." The figures quoted for departmental use were mathematics 67 per cent, computer studies 58 per cent.

At first sight, the position with regard to mathematics seems to be a very healthy one. However, these are global figures and further consideration gives a very different picture.

There are two main points. The figure of 67 per cent for mathematics departmental usage agrees uncannily with the Independent Mathematics Association's findings which also arrived at the same figure. However, the MA survey probed more deeply and the frequency of usage was:

Very often 6 per cent  
Often 6 per cent  
About once a week 15 per cent  
Not very often 39 per cent  
Never 33 per cent

A different picture now starts to emerge. Only 12 per cent of departments in this sample used the micro more than once a week. If this is further sub-divided into use by individual teachers and classes, then the percentage is substantially reduced.

The DES figure of 58 per cent usage by computer studies caused us some amusement. Does it mean that there are some 42 per cent of schools where the computer studies department does not use microcomputers? We hope not.

Some schools will not offer computer studies as a subject at all, but others will do so under the umbrella of the mathematics department, thereby almost certainly diluting the DES's global figure of 67 per cent reported as "mathematical" usage.

Another significant finding from the MA survey was that very few computer teachers were located in mathematics teaching rooms (5 per cent) and a low number were mobile (15 per cent). David Tall *et al.* calculated that there was approximately one computer for mathematics per 1,000 pupils. Furthermore, that if these computers were totally dedicated all day and every day for pupils to do their own mathematical programming, this would give each pupil one hour's programming per year. (*Mathematics in School* 16, 1, 44-5).

Both the DES and the MA surveys addressed themselves to the way in which the micro was used in mathematics. This is an important consideration. As the Cockcroft Report says, "the fact that a school possesses one or several microcomputers will not in itself improve the teaching of mathematics" (para. 404). The key statistics are shown in Tables 1 and 2.

In the MA survey most schools reported just a little pupil programming in Basic (50 per cent) and/or in Logo (42 per cent). The DES survey, however, reported that 10 per cent of schools reported that they used the micro for problem solving, category involved



mathematical concepts. It seems reasonable to assume that some schools have included programming here.

The picture now becomes quite depressing. The two categories "Demonstrations" and "Investigations/Problem Solving" were the only usages for which the modal (and median) responses were as high as 2, ie "very rarely", all others being 1, ie "never".

If this is indicative of the way in which computers are being used, then it is no wonder that in the DES survey it is stated that "only 23 per cent of secondary schools' headteachers considered that micros had made a significant contribution to teaching."

One striking statistic from both surveys is the almost total lack of use of spreadsheets. These are the most common use of computers in business. Not only are micros not widely used in mathematics, but a high percentage of the little use there is, does not utilize the power of the computer.

The MA survey attempted to discern why this should be the case, and four common factors were reported: lack of software; lack of computers; syllabus constraints; and lack of training. A staggering 92 per cent of respondents felt that lack of software is a problem, 71 per cent seeing it as a serious difficulty.

We would question whether it really is the case that quality software is not available. We would suggest that in part teachers are unaware of its existence, or cannot afford it, or are unaware of its potential, and would benefit from in-service training more than they can imagine.

Interestingly, lack of training was seen as rather less of a problem (39 per cent) considering it as a serious difficulty but that may be a complacent attitude based on lack of awareness. On the issue of staff training in using micros, the DES survey reports that "the response rate from heads of department in secondary schools was low and the information reported on training only gave a broad indication of its extent." Only figures for primary schools are given in the DES Statistical Bulletin and the results for secondary schools are assumed to be "roughly comparable".

An evaluation was carried out by the education unit at Christ Church College on a short DES regional course organized at Bromley Curriculum Development Centre with participants from four different education authorities and one London borough. At the outset most were by no means convinced of the value of micros in mathematics. A summary of their responses at the end of the course is given in Table 3.

Significantly, the evaluation highlighted that "14 participants mentioned specifically the value of seeing and using software. To explore classroom uses of the programs and to hear experts' views."

In working on the Open University's "Educational Computing" course, teachers are reported to have shown a strong interest in actually trying out software in the company of someone experienced with the package. It is all too easy to miss the value of a computer pack with just a cursory inspection. The reluctance of new users of a package to study the accompanying documentation is well known (see page 73) and encourages them to study at least the most important sections can be provided on in-service

courses in a way not possible in the school situation. Our fear is that the comforting figure of 67 per cent of mathematics departments using the micro will lead to misplaced complacency at the DES and within local authorities. Once a closer look is taken there is undoubtedly much cause for concern.

The DES discussion document "Mathematics from 5 to 16" had surprisingly little to say about the microcomputer. The national criteria for mathematics stipulate the use of calculators but do not mention microcomputers.

If Cockcroft had been reporting today, it is certain that he would have had a great deal more to say about "maths and micros". Writing in the *New Scientist* in 1985, on "Does Mathematics Still Count?", he argued that a new Cockcroft Report would read differently "in two respects... at least in emphasis. Since we reported, schools have introduced large numbers of microcomputers to their classrooms; and there has also been a major revision of our examination system at the age of 16-plus."

We started with the quote from the DES survey that "Micros were most frequently used in mathematics departments". If this is true, the position in other departments must be lamentable. We feel strongly that the DES survey could produce a misleading sense of security about the use of micros in mathematics. As the Fitzgerald Report on *New Technology and Mathematics* (1985) argued, "Not only are opportunities being missed, but there is also a danger that a considerable amount of time, mental and emotional energy is being wasted endeavouring to teach pupils outdated mathematical methods, while teachers have to neglect other methods which had already been adopted in the world of employment." Clearly mathematics teachers must face the challenge or suffer the consequences.

Barry Jones teaches at Christ Church College, Canterbury.

David Green teaches at Loughborough University.

Table 1

DES SURVEY: MICRO APPLICATIONS IN SECONDARY SCHOOLS

Percentage	Age of pupil					
	11-12	12-13	13-14	14-15	15-16	16-18
Using micro mainly for:						
Keyboard skills	8	8	8	0	5	4
Mathematical skills	30	23	10	10	8	8
Problem solving	22	16	28	18	15	8
Word processing	10	13	8	14	18	22
Databases	5	7	2	13	16	7
Spreadsheets	—	—	—	—	1	2
Simulations	8	10	20	20	18	37
Others	16	25	25	18	20	13
All schools using micro with the age group	100	100	100	100	100	100

Table 2

MA SURVEY: USES OF MICRO IN SECONDARY MATHEMATICS

Usage Types	Mean rating on scale 1 never, 2 very rarely, 3 most weeks, 4 often, 5 very often		
	11-14	14-18	16-18
Demonstrations	1.8	1.8	2.2
Drill and practice	1.6	1.4	1.1
Investigation/problem solving	1.8	1.7	1.8
Spreadsheets	1.0	1.1	1.1
Programming by pupils	1.8	1.5	1.5

Table 3

EVALUATION OF A DES REGIONAL COURSE ON COMPUTER USAGE

	Number of respondents	High				
		5	4	3	2	1
Course relevant to me personally	17	10	6	1	0	0
Course interest to me personally	17	10	5	2	0	0
Motivation to act on message or content of course	17	9	7	0	0	0

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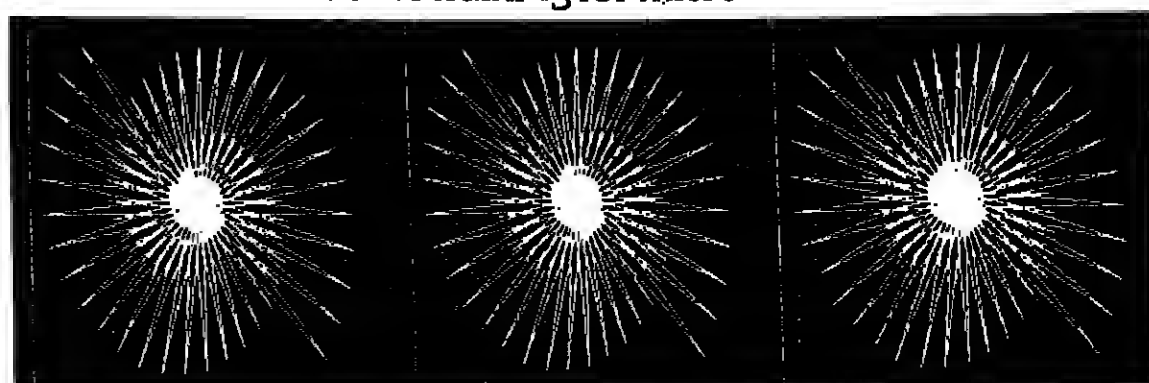
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## PROJECTS

## Teacher training for micro worlds



## Bumping into ideas

RICHARD NOSS, ROSAMUND SUTHERLAND and CELIA HOYLES

Despite the spread of home micro ownership, it is clear that schools still play a key role in introducing pupils to computers. This sometimes happens in unexpected ways. One young man, now finished school, had spotted his first machine four years ago: "It actually belonged to a teacher. He bought it out of a newspaper and brought it to school. It was a ZX80. What really got me into it was that somebody nicked it, and I couldn't believe it. I was amazed

Dr. John Graham-Smith  
Department of Physics  
University of Leicester  
LE1 7RH

School A	70	15
School B	85	11
School C	75	
School D	72	
School E	78	

15  
29  
29  
29

merged. The improved version, developed as an expert system, was ready within four months. A major task that became necessary as progress will take a more

Sally Tweddle is an English teacher at Queensbridge School, currently secondment to Birmingham, University of Birmingham.

LEGITIME

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Richard Noss, Rosamund Sutherland and Calla Hoyle teach in the Department of Mathematics, Statistics and Computing at the University of London Institute of Education.

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The improved version, developed as an expert system, was ready within four months. Any that become necessary as progress will take a matter

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## PROJECTS

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## DIY

MARTIN WHITE

A few weeks ago our Domesday equipment arrived. We set it up and watched with interest as a number of colleagues spent all their spare time (and some that wasn't) finding out what it was about. There were the inevitable comments - "It'll take for ever to find out everything it will do" and "what a pity they left the spelling mistakes in." All agreed that it was the most exciting buy for a long time.

And then a visitor to the faculty, who had persuaded us that he would like to play with it too, asked: "How can I make it do what I want and not what other people have told it to do?" He departed disappointed.

Microcomputers have been with us in the classroom long enough for us to see a significant change in their methods of use and in the types of software that are now demanded. Gone (thank goodness) are the drill and practice routines and even some of the simulations. The accent is now on open-ended software which can be tailored by the user for his or her own purposes.

It seems that as with microcomputers, so now with interactive video, we are in that early stage where we accept and use with thanks whatever is put before us. This is not in any sense to deny the excellent work which has gone into Domesday, but it is a fact that its video content and control software are fixed beyond alteration. There is, however, another consideration: apart from the university across the road, how far do teachers need to travel to the next Domesday installation?

When considering how best to make interactive video generally available, two questions pose themselves. Given the cost of a disc-based system, is there any way in which teachers can experience interactive video in the classroom? And second and perhaps more important, is there any way in which teachers can make their own interactive video programmes? We believe that Brighton Polytechnic is providing positive answers to both questions by virtue of the *Telsof* system we have developed.

We began about 18 months ago from the position which schools were at - and particularly, because we are a faculty heavily concerned with training for the primary sector, where primary schools were at. That is to say we took the equipment and expertise available to us and developed a simple tape-based interactive video facility which uses a BBC micro and a domestic VHS video recorder. We argued that what

the system would lose in speed and random access would be more than made up by the saving in cost and the ability to use existing video material or that provided by the user.

The interface which we have developed, and which is fitted into a video recorder, allows the micro to read the tape counter and to operate all the tape transport mechanisms under keyboard or software control. The display of successive images from video tape or computer can be pre-programmed and account taken of the response to computer-generated questions or discussion starters in determining the sequence in which they are presented to the user.

Experiments have shown that, provided there is something presented to involve the user, the search time for the next piece of video material is relatively unimportant. In any case, careful design can enable a likely sequence of video segments to be placed together on the tape, so access time is minimal.

There can be no random access with a linear system such as this. With the domestic VCRs which we use there is a certain amount of tape slip and there is no second audio track for control purposes. We use the tape counter for rough positioning and audio pulses for exact cueing. It works.

The simplest configuration uses two screens - which, surprisingly, some people prefer. For our work we use a single monitor with switchable RGB/composite video inputs controlled from the micro. The present system does not provide overlay of computer text on video but the next series of systems will.

The *Telsof* interface fits inside the VCR and can be installed by a competent technician following the step-by-step instructions and using the test software provided.

Many teachers using the system for their own programmes make use of existing video material which they have recorded off air or have purchased. The use of a computer to play a tape in a different order from what was originally intended does not violate copyright. The re-recording of a tape in order to alter the video content in some way is contrary to copyright and permission must be obtained before this is undertaken. Most copyright holders will allow this for research or experimental purposes, often without charge, but it is important to ask first. No matter which system is being used, the design of an IV programme is first of all a paper exercise. Putting the theory into practice is carried out by means of an authoring package, in our case one specially developed for the *Telsof* system which requires no computer programming knowledge. The user is only required to fill in sections on the screen by putting in answers to questions concerning the structure and content of the programme.

Designing computer screens can be

depending on your personal viewpoint. The *Telsof* authoring package contains a sophisticated screen editor or system which allows text to be written in single, double or triple-height characters and moved around on the screen. There are facilities for pixel editing and for windowing. A comprehensive editing program allows for changes to be made and for a new file of screens to be made from existing files. A good, effective screen does not have to be recreated for each programme.

The system can provide up to nine title or introductory screens before the first video sequence appears, and question screens or discussion screens into which the user's summary of a discussion can be input and stored. Help screens can be called up when a user makes a wrong decision, and message screens to give instructions or comments. For those who wish to be more adventurous, a series of commands will shortly be available from ROM, which will allow even greater flexibility in programme design.

All this is made interactive with one further facility in the authoring package which takes all the files, combines them with the control software and automatically produces a master control program complete with its own IBOOT file.

Over 30 secondary teachers gathered at Oxford recently found the experience of designing, producing and testing their own IV programmes a fascinating experience. The process by which IV is made lends itself to group discussion and has already been shown to stimulate and motivate in the classroom. Groups as diverse as upper juniors and sixth formers work together in design, production and evaluation of their own programmes.

Existing and much-used video materials can be given a new lease of life by the addition of questions and discussion starters. Pupils can often view the programmes on their own since responses from up to 20 different users of a programme can be stored automatically and, by means of a review program, can be analysed by the teacher at a later date. The software is such that the tape is rewound and the computer reset for the next pupil after each use.

It is also possible without much effort to produce one's own video material by means of a home video camera plugged into the VCR. Children in two primary schools have done just this and made programmes about a nature trail and a day trip. The design and production of the interactive material has been carried out by the pupils in each case.

The major use for the *Telsof* system at the moment is to provide in-service training material in TVET. The Manpower Services Commission have provided funding through TRIST for the production of packages intended for use in the extension programme just beginning. Interactive video packages consisting of video tape, software and print materials are being produced on "What is TVET?", "Profiling", and "Counselling".

Education authorities in East and West Sussex, Croydon, Sandwell, and Cwelyd are co-operating with the team at Brighton Polytechnic in providing evaluation feedback and in some cases producing feedback for the specially-made video materials. Following this, the packages will be available for general release later this year. They are designed for use in school by groups of teachers or by individuals and are intended to stimulate discussion on the implementation of TVET rather than present answers.

Undoubtedly the ability to record on to video disc will be developed sooner or later and with it the possibility of producing sophisticated IV packages in school. Until then, this cheap, simple, do-it-yourself system can provide the experience of designing, making and using interactive video.

The *Telsof* project acknowledges support from MSC through TRIST and from the Faculty of Education and Learning Resources at Brighton Polytechnic and the Media Services Unit at the University of Sussex. Further information about the project and on the supply of *Telsof* systems should be addressed to The *Telsof* Project, Faculty of Education, Brighton Polytechnic, Brighton BN1 9TJ (tel: 0273 606222).

Martin White is principal lecturer in the Faculty of Education at Brighton Polytechnic.

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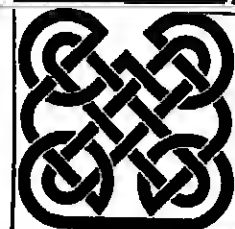
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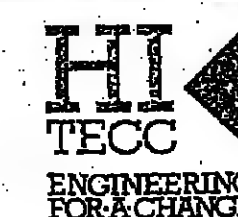
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## SOFTWARE

## SOFTWARE

## 'Content-free'

## Children in control

MARK SEALEY

In the last Computer Extra, various contributors set a gloomy tone by arguing that educational computing in Britain had lost its way. However, since there are no nationally agreed educational objectives, for primary at least, this loss of direction is not so bad as it sounds.

Discussions about hardware and its management do not really address the issues either. Since the introduction of computers into primary schools five years ago, numerous reports have purported to show slow take-up, reduced access by children, less than imaginative use of software, poor or non-existent in-service training.

Although we will never be happy about these failings, we must accept them as given. They are to be understood not in terms of increased retraining that has backfired (and very thin resourcing it is), but in terms of curricular innovation, improved from the "trap". As such, all the odds are stacked against it.

Indeed, criteria that emphasises computers as a resource are the wrong ones on which to plan computer assisted learning. They assume that "time at the computer" is analogous to a dose of vitamins. Get enough of it and you see results.

There is a more pressing reason why this attitude must be abandoned. Research is making ever more persuasive the proposition that how children interact with the software, the very way they see the screen, can often have little to do with the intentions of program designers. Our concept of computer use is based on Michael Reddy's conduit metaphor, in which packets of unambiguous information and meaning are supposedly conveyed as objects from one person or source (the screen) to another (the "recipient" child).

This is not what happens. As a concept, it ignores all the experience that is part of our children's culture - television, pop videos, animation, sci-fi, electronic games and so on. Take, for example, the story of the boy who interprets colour, movement, upper and lower case, the

learning objectives achieved may be entirely different from what was intended. At worst within the classroom context children are criticized for not "getting it"; at best, puzzled because the order they want to work through a program is at odds with the documentation. They thus fail to internalize such material as may be presented to them, learning something quite different, and they are rarely in control by the program's standards.

Certain types of software are commonly labelled "content-free", but at least the label acknowledges and sometimes deliberately attaches increased importance to the child's construction of what he or she is doing, by not pre-empting any outcome.

All too often the use of a certain piece of software is predicated upon a sequence of teaching points to be got through in a certain order. The old debate used to be "Is the computer programming the child or vice versa?" It must now be accepted that the child will always act on, if not actually program, the computer. Elementary Piagetian notions about the child's "deforming" a task to fit his or her prior understanding of it are ignored in all but the best software.

There has always been an amount of spurious material available. In the first few months it was because some knew no better. Now it is more often down to the desire of some I.E.S.s to build software empires. Hours and hours of wasted programming time churn out more programs to teach fractions their own way. The publishers too have seen educational software as a potential goldmine.

The decision needs to be taken to settle for just a few content-free or near content-free items of software. All children need is Logo, word processing, CAD packages, simple data retrieval programs like *Quest* and *Grassi*, proven language developers like *Tray*, child-centred simulations and games of the *Grimm's Garden* type and other authoring and composing suites to facilitate self-expression.

This does not exclude such necessary utilities as printer-drivers. And it must not exclude those peripherals (for control, music, toys, alternative input-output devices etc) that are either appropriate to children with defined special needs or provide concrete, three-dimensional experience.

Any national programme now should concentrate from the start on teacher competence in the appropriate selection and employment of software. Without this, the best software in the world will never get used. The educational arguments should be put and met for software that is likely to meet child-centred learning objectives. In-service work at the moment has often centred on helping teachers to run some of the hundreds of boring stimulus-response programs that exist.

Still on the idea of children in control of the content, there is one last spectre to be feared, that of any vocational goal. From the inception of the computers in schools era, one (often unspoken) aim has been the trade-off for commerce and industry. In the minds of many teachers too, there is an unarticulated opinion that working with computers is somehow innately good because they represent the "world of the 21st century".

Any national consensus on computing must be software-led and work unequivocally from the premise that children are in control of what they do and teacher confidence to support them is vital.

Mark Sealey teaches at Lark Hall Primary School in London and runs in-service courses in Lambeth.

The search for compatibility goes on, but one software company is adopting a new European approach



## Crossing cultural boundaries

TONY SCOTT

The pursuit of standards and software portability has long been a characteristic of the computer industry. The search for "problem-oriented" languages, which glossed over the differences between hardware manufacturers' products, began with Cobol and Fortran and has continued ever since.

Standards committees have worked extremely hard over the years to try to establish compatibility between language processors, and more recently to introduce common approaches to communications and to graphics. They have always been defeated by the imagination of the designers of computer architecture. A combination of "that extra little instruction" and radical changes to memory-handling strategies always seems to result in subtle differences which prevent a program written for one machine being re-compiled for another without a certain amount of re-writing.

An alternative approach to the compatibility problem is to use the power of the computer to imitate (or "emulate") its predecessor or one of its competitors in the market. A certain proportion of the computer's resources being devoted to this task means that the overall performance will be less "efficient" than it could be, but efficiency these days should be measured in how easy a machine is for humans to use.

Manufacturers are interested in compatibility and portability as a means of enlarging their potential market - they may seek to take advantage of the existing software base in "the CP/M market", the MS-DOS market or "the Unix market", but this being a two-edged sword, they also seek software and more particularly hardware developments which provide an edge in these markets, thus re-introducing incompatibilities.

Customers are interested in compatibility and portability in so far as their purchase is software-led. An increasing number of buyers have a particular program or application in mind when they set out to buy a computer. In hardware terms they are seeking the best value for money which will also support their application. Very few people these days (fortunately) are buying a computer "to see what they can do with it".

Why should teachers be interested in compatibility and portability? After all, many of them are in a monopoly situation when it comes to choosing school computers (at best a duopoly). They are also restricted to a very narrow range of software which is both suitable and proven to contribute to the very narrowness of the range of choices available to teachers and IT advisers which makes compatibility and portability important.

Education, particularly when considered in European terms, presents a wide range of narrow choices: two or three manufacturers' supporting the UK market, one or two in the French market, perhaps only one in the Danish or Dutch educational systems. This is why the search for software which produces hardware which takes the imagination and a lot of man-years to

create good, robust, educationally-useful programs, with intuitive interfaces and stimulating graphics. Software producers need a sufficient market to sell enough copies to recoup development costs and make profits. Software costs are too large, and national markets too small, for this to be achieved on a national basis.

E2S, European Educational Software, is the name of a new company established by ex-Acorn and ex-Sinclair executives to tackle this specific problem. Their aim is to develop software which will run on the wide range of microcomputers used in European educational systems, while maintaining the qualities which mean so much in educational software: high-quality graphics, sound, a robust user interface. They are approaching this by writing software, not for any particular system, but for what is called a "virtual machine".

This is a strategy with a long tradition. Basic, Cobol, and many language processors since, compile instructions to an intermediate code which is interpreted by a "virtual machine". In a computer program re-written for each hardware model to provide the standard interface to the intermediate code. As a strategy it works fine, and sometimes rather slowly. Its main disadvantage is that the qualities of the virtual machine tend to be those of a lowest common denominator of the range of hardware the original designers thought it was going to run on.

Getting the virtual machine to cope with the contemporary richness of interfaces - inputs from mice, digitizers, light pens, outputs to sound chips, high-resolution graphics monitors, and the like - can be reasonably straightforward on those machines which require only a mapping process to translate the commands given to the appropriate native-mode instructions. On machines which are not so advanced or use radically different approaches to the control of hardware or organization of memory it will be necessary to use a "personality card". This takes the form of instructions embedded on ROM, perhaps even with supporting graphics and sound, to provide an appropriate and sufficiently fast virtual machine.

Certainly the E2S virtual machine, considered as a software and hardware card combination where necessary, will be advanced enough to provide the facilities we currently consider essential for educational software. If the applications software to be written for classroom use by E2S matches the standard that those involved have achieved in the past, i.e. a standard which allows the software to be ported to a wide range of hardware, to enable E2S software to be run.

There are, however, other problems in the way of establishing a European market. There is the obvious cultural problem of different user languages, which for the time being may easily be overcome by translation; there are some less obvious cultural differences

which will affect "what works". Adventure-style programs in particular may not "translate" well. There is the very large problem of differences in classroom cultures.

Some of the very best British software is predicated on certain approaches to classroom organization and group work, and to an acceptance of open-endedness and unpredictability not always found in other educational systems. Similarly, some markedly effective CAL programs may come over to us as mere "drill practice". Content-free programs, including multi-front word processors, will travel across the cultural boundaries. Content-specific programs which embody particular images of the classroom, not so well.

Next, there is the problem of the further fracturing of market size. As more schools become involved in local financial management, the fairly tight line on hardware purchasing policy held by many UK I.E.S.s will begin to waver. Certainly, schools will be warned that authorities will still only have the manpower and resources to support a limited range of machines, but that will not prevent them from selecting machines that are not traditionally part of the education sector and offer very good price/performance ratios. As this trend develops, E2S will need to track the overall proportion of the market being devoted to such machines, and produce an ever-increasing variety of personality cards.

There is the related problem of obsolescence. Very few UK I.E.S.s have faced up squarely to the expense of the hardware they have purchased. Schools managing their own budgets will be even more reluctant to do so. In so far as other European countries have introduced micro into their schools, the same holds true. Machines will begin to need replacement in increasing numbers. Funding will not be so readily available. There will be a trend to the purchase of "cheap" rather than "powerful" replacements, some of which may lack sufficient power for E2S applications.

And there is the problem of advance. Major research initiatives in logic programming, concurrency, parallel processing are beginning to show fruit. The desktop expert system is nearly with us. It will be a while longer before that desktop expert capable of working at several hundred thousand "logical" inferences per second can act as an intelligent tutor. When it can, the impact on the education market may be profound. More radical approaches to compatibility will be required.

E2S have taken on a huge task. It is essential that they succeed if the world of European educational software is to become available in each European market, and if the European educational software market is to overcome its structural problems and survive.

Tony Scott is an advisory teacher for the London Borough of Croydon, currently Teacher Fellow for Information Technology and Education at the University of Sussex. He has expressed concern about the "what works" problem, and those of his employers.

Language development programs for primaries

## Adventures with words

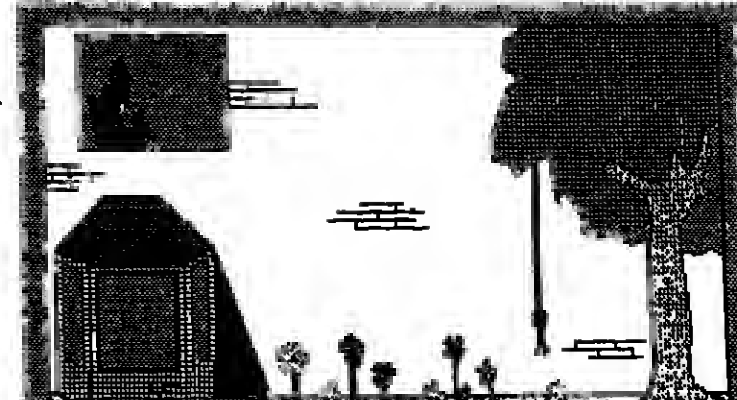
There has been a marked move away from drill and practice programs for language development and a demand for packages which provide extended classroom work, such as full-scale simulations. Teachers of upper juniors have a good choice but, sadly, there are not enough on the market for the lower range. Here teachers have to rely on other kinds of software.

One firm which has made great efforts to supply the lower age group with effective material is Sherston Software. Their output over the past years has been prolific and the quality has improved steadily to encompass a wide range of skills. Three programs of theirs which have been well received in schools are *Animal Rescue*, an adventure which includes number, reading and logical thinking skills for early learners; *Stig of the Dump*, based on Clive King's book, which centres on comprehension; and *Story Starts*, in which mini-adventures lead to creative writing for nine to 12-year-olds.

Two further programs from this source fill a serious gap. Many schools have seen the great potential offered to all aspects of language development by "newspaper production", but this area of desktop publishing has been hindered by the lack of appropriate software. Simple programs like *Front Page Extra* have allowed the creation of papers but have lacked the more powerful editing and formatting facilities. *Fleet Street Editor* and *Pagemaker* have incorporated a comprehensive range of facilities but often proved too difficult for junior children to use.

*Typesetter*, the first of Sherston's new programs, seems to strike a balance between the two extremes. It is powerful without being too difficult to operate and it allows several different self-contained boxes on the same page to be filled easily with automatically adjusting text. Its main pull-down menus and text types can all be brought easily into operation with the function keys. It also enables dark copies to be produced for photocopying.

Complementing *Typesetter* is *Fleet Street Phantom*, a well-constructed adventure in which the user simulates the role of a news reporter on the *Daily Times*. The newspaper is played by a phantom, fiend who creates mistakes



a) Go into the summerhouse  
b) Forget the summerhouse and explore the garden  
Select choice

PAULINE BLEACH

and errors in several of its departments. In righting the wrongs and seeking out the phantom, the reporter encounters various language skills.

Another valuable source of software is the teacher consortium behind *Selective Software*. They are not prolific, but their software is consistently good and child-centred. The emphasis is on the talking, thinking and discussion aspects of language development which can be encouraged through group work.

*Red Riding Hood* is an adventure for the lower age range (five to eight) and provides a useful follow-up to older programs like *Granny's Garden* and *Magie Sword*. Children are offered a good range of branching alternatives, simple decision making and problem solving, and it is set in a context which encourages conceptual thinking about the language of number. Because it is a "heritage" story, the program is not demanding to older remedial children.

At the older end of the scale, *Shylock Gnomes* is intended for read-

ers of 10-plus and provides a challenging, interactive, two-part adventure. Some of the background literature stimulates and appeals especially to brighter children as they absorb the clues for solving the problems.

The demanding nature of the program ensures that pupils develop effective strategies rather than adopt trial and error methods. The program provides the basis for several weeks of systematic working and leads to much cross-curricular resource work.

HS Software has moved away from drill and practice routines. *Adventures in English* is the first of their programs which manages to develop higher skills, while giving practice in the use of prepositions. At the first level, Ben must explore the various scenes, using appropriate prepositions to enter and leave them successfully. Children need to record and plan a logical route to enable them to re-visit the journey level two, where various hazards turn Ben's task into a simple problem-solving exercise. The program is ideal

for weaker children who become frustrated by the demands of more powerful problem-solving programs.

A relatively new software source is to be found in Thames Television, who are starting to produce software in accompany broadcasts. Mr Magus is Waiting For You links with the *Middle English* series. Though slow in their creation, the graphics are very good and are an adjunct to the text which enables children to follow several different branching routes through the story. At strategic points, children can add their own text and provide different endings. The newly-created story can then be printed out, complete with graphics, and made into the child's own book.

*Animal Rescue* (£16 + £2.40 VAT), *Stig of the Dump* (£14 + £2.10 VAT), *Story Starts* (£16 + £2.60 VAT), *Fleet Street Phantom* (£14 + £2.10 VAT), *Typesetter* (£25 + £3.75 VAT) from Sherston Software, 8 Court Street, Sherston, Malmesbury, Wilts SN16 0LL. All programs available on 28 days' approval.

*Front Page Extra* available as part of a larger package to MAPE members. Details from MAPE Administration, 76 Sudbrooke Holme Drive, Sudbrooke, Lincs LN2 2SF.

*Fleet Street Editor* (£39.95 inc VAT) from Mirasol Ltd, Maxwell House, 74 Worship Street, London EC2A 2EN.

*Pagemaker* (£49.95 inc VAT and p&p) from Advanced Memory Systems Ltd, Freeport, Warrington WA4 1BR.

*Red Riding Hood* (£7.50), *Shylock Gnomes* (£14.50) from Selective Software, Freeport, 64 Brooks Road, Somerset BA16 0YS.

*Granny's Garden* (£12 + VAT) from 4Mation, Linden Lea, Rock Park, Barnstaple, Devon EX32 9AQ.

*Magie Sword* (£7.95) from Database Publications, Europa House, 68 Chester Road, Hazel Grove, Stockport SK7 5NY.

*Adventurous English* (£7.95) from HS Software, 55 Handreol Avenue, Sketty, Swansea SA2 7NB.

*Mr Magus is Waiting for You* (£21.16) from Schools Publications, Thames Television, 149 Tottenham Court Road, London W1P 9LL.

providing guidance. Once field types and lengths have been defined, the program calculates the number of records which can be fitted on to the disc. It is possible to enter records field by field or to reassign with one field, moving through records making relevant entries. Alternatively, a global entry facility allows the same value to be allocated for a given field to all records.

Existing data files can be amended later and in this respect the ability to alter the number of records, fields, field type and length is important. This review was conducted using a data disc, *Place Names*, carrying 800 records of British place names and their location on a map which can be screened and printed (£1.95 from ITCA). This data disc exemplifies some of Key's capabilities but not statistical and graphical presentation. So, a double disc drive is highly desirable.

It can be difficult to evaluate a new data-handling package, as inevitably comparisons will be drawn with established software which is familiar to use and undergoing refinement. The developers of Key have clearly tried to balance the demands of the user against the technical constraints of the hardware. RM Nimbus and 4802 versions, networked configurations and a further utilities disc are planned.

Key is likely to have applications within a wide range and ability range. The provision of sophisticated statistical techniques means that it has scope for upper secondary pupils while the menu scheme provides easier access for younger age groups. Including primary and middle school years. Overall, this software should be looked at seriously by teachers, because of the value for money represented, the varied utilities offered and the sheer range of software-related to television.

## Way in

JOHN CHUBB

graphical presentation and statistical analysis. These cover pie chart, bar chart (but not line), Venn diagram and scattergraph depiction as well as Spearman Rank, Chi Square, mean, median and standard deviation calculation.

Two further utilities allow the creation of maps, upon which locations and distributions can be plotted via co-ordinate fields, and diagrams or pictures related to specific records. These can be input with a Grafpad, AMX Mouse or keyboard.

The production of clearly annotated diagrams will have a role to play in many subject areas but the validity of using a database package for storing pictures generated in this way is questionable. Is the final screen display and effort required to create the images an effective use of time and technology when alternative means are available? On the other hand, teachers may be pleased to use data discs carrying pictures fields if these have been generated elsewhere, are of good quality and tie in with television programmes or other media.

The program is primarily menu-driven and robust to run and the screen displays are clear, with effective use of colour and layout. However, only 40-character screen mode is available and there is no facility to toggle lists on screen. The Break key has not been disabled, so the program can be terminated inadvertently. Up to 32 fields can be used, but it may be irritating to find that these are held on

records displayed over more than one screen page. An option allowing the number of displayed fields to be limited helps to overcome this problem.

The sort utility allows ascending and descending routines while searches can be conducted through a menu or command line. In the latter, fields and conditions can be input by the user in a flexible manner. The menu will be of use to younger pupils and those unfamiliar with database handling, while the command option provides opportunities for exploring logic and setting up complex searches.

One constraint is that conditions are only accepted in upper case and the fieldnames must be typed in precisely, recognizing the style used when they were initially named at the editing phase. Perhaps all field titles should be set up in upper case.

The well-designed and comprehensive documentation, which comes as a spiral-bound 70-page booklet, refers to the different types of fields. Apart from words and integers, Key can also use "advanced" fields, notably date, decimal, free-text (sentences), byte, integer, 1-255, logical (true/false), graphics, co-ordinate, tokenized and dependent.

Printer dumps of charts, maps and diagrams/pictures may be obtained, as well as relevant text displays from screen, and a further output option allows the printing of labels and lists.

Creating and amending data files is straightforward, and the program does not require a lot of data to be held on

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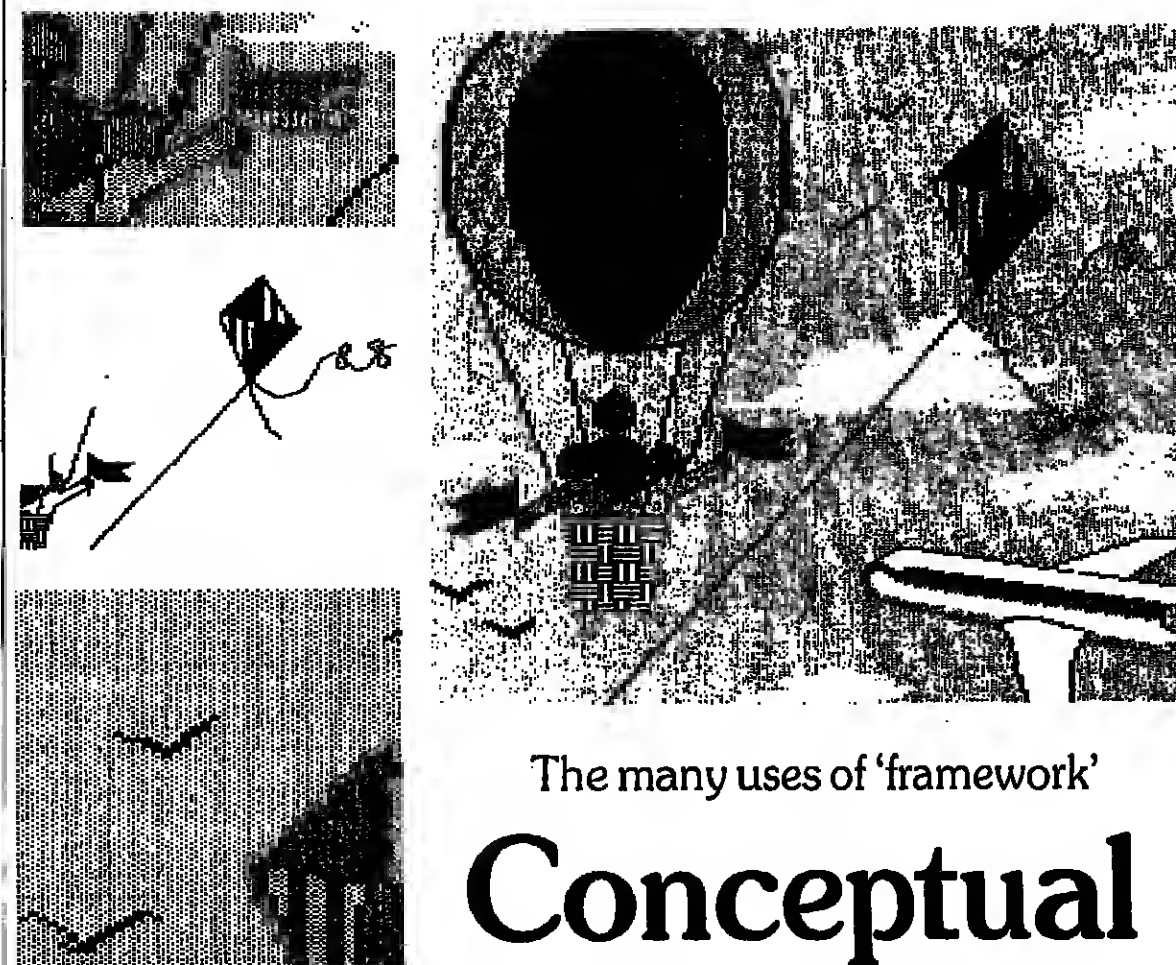
Slone, Essex Road.







## SOFTWARE



## The many uses of 'framework' Conceptual

DAVID KING

This is the type of program I've been waiting for for years - it's so easy to make I do what I want it to do!

More and more teachers are moving away from trying to use a large number of specific computer programs, each dealing with one area of the curriculum. Instead they are concentrating on a small number of versatile and easy-to-use "framework" or "content-free" programs, which they can tailor to meet their pupils' needs.

These programs provide a framework into which teachers (or pupils) can put the sort of content that they want to use by making their own "files" for the program. A number of framework programs for the BBC micro have been released recently through the MESU Blue File system: all are freely copiable within the UK.

Several framework programs are already being used widely. One is *Prompt*, the first word processor into which it was easy for students to enter whole words and phrases by a single press on the "Concept" Keyboard. Another popular (and much more sophisticated) one is *Writer*, from the Primary Project. These have both now been combined in a considerably enhanced version, called *Prompt/Writer*, which is even easier to use and has many new features.

One of the best features of *Prompt/Writer* is how simple it is to make or change "overlay files" (ie vocabulary lists for the Concept Keyboard) which can also be used in other programs. *Prompt/Writer* files can be used directly with *Folio*, the popular word processor; and by using *Concept*, the new Blue File program, they can be adapted for *Wordwise Plus*.

*Concept* lets you set up the Concept Keyboard so that it can be used with many programs that were not written with it in mind. The teacher can make one or more files for use with a particular program and children can then simply enter commands by pressing on words or pictures on the Concept Keyboard. What these words are, and where they appear on the Concept Keyboard, is up to the teacher, so many programs that might otherwise be off-puttingly difficult for a lot of children become accessible.

One interesting and very popular use of *Concept* is to control Logo or turtle-graphics. The commands can be shown as diagrams on the Concept Keyboard, and children can build up an understanding of Logo in a logical and easy-to-understand way by using a succession of overlays.

*Tray* is another framework program which has been available for several years, in various forms. A new version, *Developing Tray 2*, has been prepared by Mike Blamires of Redbridge SEMERC, and has also been distributed through MESU Blue File. This is easier to use, and has new features. Databases have been used for many years, but it is often difficult for children to visualize what a database is. A new program which makes this very much easier is *List Explorer*, perhaps the most exciting framework program of the year. This uses the Concept Keyboard in a natural and versatile way. All the "records" (items in the database) and "field names" (headings used) are shown on the Concept Keyboard overlay sheet. A typical *List Explorer* overlay has a file on eight children, with information stored under six headings. To find out about the children, users press one of

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the photographs on the overlay and, when appropriate, one of more of the headings. The relevant information is then shown on the screen. Information can easily be added or changed.

The format lends itself readily to many exciting uses: files for science using objects found on field trips; or for home economics using pictures of different types of foods; files using a map on the overlay, with information about the different places shown in the map. The most revolutionary aspect of *List Explorer* is the way in which children can use pictures (or real objects) as their way into a database. Like all worthwhile framework programs, it can be used in many very different ways. The main limiting factor is our own imagination.

A different type of framework program is represented by *Window*. Here, a high-resolution picture is "hidden" on the screen. Pupils see a succession of different "windows" and try to discover as much as they can about the picture from what they see. The program is primarily designed to start children thinking and talking; unlike others, it works best if an adult is present to direct conversation sensitively. The window can be controlled from a switch, a joystick, the Tandy Electronic Book or Concept Keyboard, as well as from the computer's own keyboard. *Window* comes with over 30 attractive and interesting screens, and it is easy to introduce new screens from other programs (such as *Image*) or from video digitizers.

Teachers want programs which are easy to use, yet versatile and flexible. Above all, they want programs which supplement (rather than interfere with) what is already being done in the classroom. Well-designed framework programs are proving very popular indeed as one of the most effective ways of using micros. What is needed now is a strong national effort directed at getting them used widely.

*Prompt/Writer*, *Concept*, *Developing Tray 2*, *List Explorer* and *Window* are MESU Blue File programs; they are available from the Blue File contact person in each LEA. Contact MESU or your regional SEMERC for the address (Bristol 0272-733141, Manchester 061-225 9054, Newcastle 091-266 5057, Redbridge, London, 01-478 6363); MESU 0203 416994.

*Folio* Teddies Software, PO Box 23, Southampton, Hants SO9 7BD. *Wordwise Plus* Computer Concepts Geddenden Place, Hemel Hempstead, Herts HP2 6EX.

*Image* Cambridge University Press, Edinburgh Building, Shaftesbury Road, Cambridge CB2 2RU.

*Concept* Keyboard from AB Euro Marketing, Whitstable Rd, Penryn, Cardiff, South Glamorgan, CF2 7HS.

David King is manager of the MESU Special Needs Software Centre at Manchester Polytechnic.

## Company

MIKE THORNE

Unism

Pack contains RML or BBC discs, tutor's manual, nine copies each of the *Player's Guide* and *Financial Management Information Booklet*, set of master forms, £20.

Unism is intended to give students aged 16 and over insight into running a business. It is a computer-based simulation which its developers, the soap-powder and foods group Unilever, have used successfully in management training. At £20, the complete pack is already remarkably good value but schools can reclaim half of this under the DTI software scheme. Thus, schools can equip themselves to run a business general studies class or obtain a useful resource for economics extra courses for a mere £10.

Working in company teams, pupils analyze data about their companies and make decisions on production, planning, finance, marketing, sales and personnel in order to achieve set objectives. The game is played in several decision periods, each of 20 to 40 minutes, and the total number of players can be between eight and 40. Although the interaction of the teams' inputs creates a realistic simulation without any more teacher intervention than typing their decisions into the computer, the teacher can use certain options to make the game more difficult once the players have got the general idea. These options include offers to tender for an order outside normal market segments; buying in stock from an outside supplier to meet peak demands for the product (actually plant chocolate bars); introducing an external economic factor to change the total size of the market; and creating strikes to disrupt production.

Generally the production standard is high, though there are occasional lapses in typography - for example, "You have three choices" on the Labour Relations master form. More importantly, perhaps, the style is all out right for sixth formers and above, as in the following comment on the description of what a balanced sheet is: "The Balance Sheet is therefore more a record of the stewardship of the business managers than a measure of their performance."

The software design is adequate for the task, though it is not very robust. It was all too easy to get error messages of the form "error 208 9010" and "error 56 18516", perhaps because the program allowed alphabetic characters to be typed in numeric fields. There can be no doubt that the very best way to get business experience is with some cash in hand and a real product. But this can be too difficult to organize for all sorts of reasons. Less energetic teachers may find this pack a first-rate alternative.

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## Think big

DAVID MARSHALL

The Big Calculator  
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£16.10 inc VAT  
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Barnstable, Devon EX32 9AQ.

For those of us who have been used to great adventures from 4Matton their latest offering comes as a bit of a shock. When I first heard the title I had visions of being trapped inside a calculating device fending off dragons, collecting eggs, piecing together a puzzle or trying to outwit a witch. But not so. *The Big Calculator* is just what it says it is - a full screen version of a calculator. It is also extremely useful and very well thought out.

On booting the disc a row of six icons appears that allows you to choose the output device you wish to use. The default device is the keyboard, of course, but input can be made by lightpen, joystick, mouse, concept keyboard or touch-screen. Choosing *Start* loads the calculator screen.

It really is just like having a normal calculator that you would hold in your hand, up on the screen. From the computer keyboard you just use the arrow keys and *Return* to make your way around and do your sums. All numbers are there, and +, -, I tried all sorts of calculations and apart from algebraic functions that are explained in the handbook, everything worked first time.

There are, of course, additional functions. You can have all calculations printed out by choosing the printer icon. You can set a clock, both to tell the time and as an alarm for setting time limits.

Selecting the printer icon for a second time reveals another screen that allows you the facilities of the ordinary keyboard so that you can make notes on what you are doing - annotating calculations no less. A control program allows the user to make any alterations to various settings and layouts to suit the children in their class. The speed of response, whether 12 or 24 hour clock, left margin for the printer, are all changeable. There are also eight alternative layouts that allow you to use the calculator in bases 2 to 9. This is a feature that conventional calculators could well afford. A simple supplementary program called *Bases* allows you to enter any number in a base of your choice and it is displayed as a number in all the other bases.

There are so many obvious ways that this excellent program can help but, in particular, it means that children who are physically handicapped or partially sighted can enjoy the modern maths where a calculator is vital. It has always been difficult to demonstrate the use of a hand-held calculator for obvious reasons. This program is an excellent electronic blackboard for group or class lessons. The handbook has many more suggestions for further work and uses.

Those involved in maths teaching in secondary schools, special schools and all primary schools will be pleased to realize its potential.

The manual is split into three sections: a user guide to each program, a technical guide to each program and a programming guide. The user guide includes regular use of the *Wordwise Plus* ROM. The inside front cover sets out eight things to try when using the program. The technical guide is the heaviest reading, and unless you wish to change program, operation can be left alone. The first section, on using the programs, is essential reading, because handling this software will prove difficult unless your background includes regular use of the *Wordwise Plus* ROM. The inside front cover sets out eight things to try when using the program. The technical guide is the heaviest reading, and unless you wish to change program, operation can be left alone. The first section, on using the programs, is essential reading, because handling this software will prove difficult unless your background includes regular use of the *Wordwise Plus* ROM. 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## Working in Education

### Headships & Deputy Headships

The Inner London Education Authority is committed to providing a high quality education service to one of the most ethnically and culturally diverse populations in Britain and is able to offer its teachers:

- Commitment to promoting equality of opportunity in education
- Pupil teacher ratios among the best in the country

- With some 950 schools, opportunities to broaden experience and enhance career prospects

- Excellent support staff and professional back-up, plus a range of central specialist resources

- Inner London allowance of £1,215 plus in many cases Social Priority allowance of £201.278 p.a. in addition to Burnham salary.

Applications are invited from suitably qualified and experienced teachers interested in working in this exciting inner-city environment. The closing date for applications is 3rd July 1987 unless indicated otherwise.

### Headships

Headships are not open to job share. Unless indicated otherwise please send *footcap* as for application form and further details to Education Officer, PER/PSAB, Room 262a, The County Hall, London SE1 7PB.

### Primary Education

**BENTWORTH (JMI&I)**  
Bentworth Road, London W12 7AJ.  
Roll: 206 plus 43 p/t nursery.  
Vacant September 1987.  
Burnham Group 4.

**BONNEVILLE (JMI)**  
Bonneville Gardens, Abbeyville Road, London SW4 9LB.  
Roll: 137.  
Vacant now. Burnham Group 4.

**HAGUE (JMI&I)**  
Wimbor Street, London E2 0BP.  
Roll: 85 plus 19 p/t and 1 p/t nursery.  
Vacant now. Burnham Group 3.

**KINGSCLIFF (JMI)**  
Messina Avenue, Kiburn High Road, London NW6. Roll: 775.  
Vacant September. Burnham Group 4.

**MOWLEM (JMI&I)**  
Mowlem Street, Bishops Way, Bishops Cleeve, London E2 0PL.  
Roll: 177 plus 16 p/t and 19 p/t nursery.  
Vacant September. Burnham Group 4.

**ST CLEMENT DANES CE (JMI&I)**  
St Clement Danes, Weymouth, London WC2.  
Roll: 180 plus 30 p/t nursery.  
Vacant September. Burnham Group 4. The Governors invite applications for the headship from suitably qualified teachers who are communicative members of the Church of England. The school is an ancient foundation with endowment funds.

Application forms and further details obtainable from the school, to be returned by 10th July to Mr. A. Fletcher, Clerk to the Governors, 48 Queen Victoria Street, London EC4M 6EF.

**WELLINGTON (JMI&I)**  
Wellington Way, 20th Road, London SE20 8JH.  
Roll: 276 plus 30 p/t nursery.  
Vacant September. Burnham Group 4. The Governors invite applications for the headship from suitably qualified teachers who are communicative members of the Church of England. The school is an ancient foundation with endowment funds.

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### Special Education

#### BURROW HILL BOYS (EBO) BOARDING

St Catherine's Road, Framley, Surrey GU16 5NL.  
Roll: 47. Vacant September.  
Burnham Group 4 (S) plus C308  
tinga London allowance plus  
C355 residential responsibility  
allowance. An allowance is  
payable which at the maximum  
of the scale would pay a salary  
at a maximum of group 4 (S).

**WOOD LANE (DELUCE)**  
Wood Lane, London W12 0HP.  
Roll: 89. Vacant September.  
Burnham Group 4 (S).  
The Burnham group of  
special schools are subject to  
review annually with effect  
from 1st September.

### Deputy Headships

All posts are open to job share unless indicated otherwise (NAB). For a Register for pairing potential job-shares contact ED/PSAB, Room 553, The County Hall, London SE1 7PB.  
Tel: 01-423 8807.  
Application forms and further details are available from the Head of the school, unless requested otherwise.

### Primary Education

**GRASMERIE (JMI&I + N)**  
92 Albion Road, London N18 9PD.  
Roll: 165 + 19 p/t + 12 p/t nursery. (SPA) G4.  
Required from September or asap. Deputy Headteacher for this multi-ethnic school, to support and develop staff.  
Must be keen to take a leading role in further development of the curriculum.

**ST ANNE'S CE (JMI&I + N)**  
208 St Anne's Hill, Wandsworth, London SW18 2PL.  
Tel: 01-874 1883. Roll: 188.  
Head: Mrs V. Hutchinson.  
Required from September or asap - Deputy Head (Group 4).  
A teacher experienced in class teacher interested in playing a full part in the life of the school and able to offer particular leadership in one or more areas of the curriculum.

**ST MICHAEL'S SYDENHAM CE (JMI&I)**  
Cheriton Road, Sydenham, London SE26 4HH.  
Tel: 01-778 8407. Roll: 295.  
Head: Mrs. Josephine Cleave.  
Required from January 1988.  
Deputy Head (CE preferred).  
Curriculum expertise and administrative experience required. Burnham Group 5.

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### Special Education

#### Headships

**SUNDERLAND**  
EDUCATION DEPARTMENT  
MALEWOOD SCHOOL  
HEADSHIP (CR00P 4.1)  
Applications are invited for this appointment with effect from April 1988. This is a new day school for 11-13 year olds with 7-13 with behavioural and emotional difficulties. The successful applicant will take up post on 1st September in advance of the opening.  
Headship: Headteacher Group 4 (S).  
Candidates should be well qualified and have relevant experience. This is a re-advertisement and previous applicants will be considered without re-applying.  
Application forms and further details are available from the Director of Education, P.O. Box 101, Town Hall & Civic Centre, Sunderland SR7 7DN, on receipt of a stamped addressed envelope in return by 3rd July 1988. (391352) 160010

**DEPUTY HEADSHIP**  
Headship: Headteacher Group 4 (S).  
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**CR0YDON**  
LONDON BOROUGH OF  
CR0YDON  
EDUCATION COMMITTEE  
COLDHARBOUR SPECIAL  
SCHOOL  
489 Purley Way, Craydon  
CR9 3DT  
Tel: 01-088 1701

Deputy Head Teacher  
wanted for this special  
school for children with  
severe learning difficulties.

An interest in curriculum  
development, skills in man-  
agement, initiative, new  
ideas and a sense of humour  
are some of the qualities  
necessary for this challeng-  
ing post.

Relevant and varied  
teaching experience and  
commitment to this work  
are essential.

Please apply directly to  
the Head Teacher.  
Salary: Craydon 45.  
Tenable: 1st January  
1988.

Closing date for applica-  
tions 3rd July 1987.  
(40918)

**LINCOLNSHIRE**  
COBBERTON HOUSE  
SCHOOL  
11 Westhams Road,  
Cobberton, Spalding PE11  
4EW  
Group 3 (S) - Roll 60  
Ref: T379

Required from September or  
January Deputy Headteacher for  
the above school which  
caters for children of primary  
age with special educational  
needs at the moderate level.  
Applicants should be suitably  
qualified and have the neces-  
sary experience of dealing  
with primary age children  
who have special educational  
needs.

84 to Head for term and  
details. Closing date 3 July  
1987. (35666) 160012

**STOCKPORT**  
RE-ADVERTISEMENT  
Required from 1st September  
or as soon as possible there-  
after.  
DEPUTY HEADTEACHER  
Group 4 (S) Ref: 35666  
VALLEY SCHOOL  
Whitby Close, Broomfield,  
Stockport SK7 1EN  
Tel: 061-423 1111

A suitably qualified and ex-  
perienced teacher required in  
this school which provides  
education for children who  
have special educational  
needs at a physical nature.  
Successful applicants will be  
asked to take a leading role  
in developing an inter-  
disciplinary approach to  
meeting children's special  
needs and in developing  
and maintaining a high  
curriculum for the whole  
school. The school is a  
unit with physically handi-  
capped children is very im-  
portant.

Application forms and  
further details available from  
the Director of Education, 061-423  
3948, Ext. 38133, Town Hall,  
Stockport SK1 5JX quoting  
reference, by 3rd July 1987.  
Stockport is an Equal  
Opportunity Employer.  
(39347) 160012

**SUFFOLK**  
COUNTY COUNCIL  
THE THOMAS WOLSEY  
SCHOOL  
149 Norwich Road,  
Ipswich IP1 6LA  
3-19 roll 80

Required January 1988.  
OUTSTANDING TEACHER  
GROUP (S) at this school  
for physically handicapped  
children aged 3-19 years.  
An advanced qualification  
in Special Education is  
essential. The successful  
candidate will have relevant  
teaching experience in  
this field.

Further details and applica-  
tion forms available from the  
Director of Education, 01463  
4048, Ext. 38133, Town Hall,  
Stockport SK1 5JX quoting  
reference, by 3rd July 1987.  
Stockport is an Equal  
Opportunity Employer.  
(39347) 160012

**SURREY**  
Headship: Headteacher Group 4 (S).  
Candidates should be well qualified and have relevant experience. This is a re-advertisement and previous applicants will be considered without re-applying.  
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Headship: Headteacher Group 4 (S).  
Candidates should be well qualified and have relevant experience. This is a re-advertisement and previous applicants will be considered without re











**LONDON W3**  
Wanted for September 1987.  
Staff for Junior Department

Brad C. V. C. Barbara Spahn  
 Principal, East Acton, Leno  
 School, 1000 W. 3rd St.  
 01-743 8605. (244591) 185684

**LONDON**  
 "Independent Girls' School"  
 requires 1, Part-time Computer  
 Studies teacher to plan and  
 our new Computer Studies  
 Course, 2, Full-time Geography  
 play teacher IGCSE level, 3,  
 French teacher IGCSE level.  
 Please reply enclosing CV  
 and two references to the  
 Headmaster, Write, Box N  
 TES 00768, Trinity House, St  
 John's, Lnoo. GC11 185984  
 (24560)

Whitby  
General Subjects 111-141  
Constitutional Boarding and  
Day HSIA1  
Annex 5 - 18  
To qualify resident qualify  
teacher for general subjects  
History, Geography, English  
and in September  
An ability to help with  
pupils and cricket coaching  
would be an advantage, it  
would a knowledge of sailing  
and a driving license.  
To communicate with parents  
and the human  
two references to the  
ter. (3522) (3522)

**All advertisements are subject to the conditions of acceptance of Times Newspapers Ltd, copies of which are available on request.**

# GEOGRAPHY

## CHEMISTRY & BIOLOGY

**BUCKSWOOD GRANGE**, a coeducational school for 10-16 year olds, is set on the outskirts of a small Sussex town, and in a most attractive environment.

Our continuing development creates two excellent opportunities for teachers of the above subjects from September '87. These posts will be of interest to those wishing to contribute to the more personal atmosphere of a smaller school, with an average of 14 pupils per class.

For the right candidates we offer extremely attractive salaries, full board and single accommodation (if required).

Please apply with full cv to:  
**The Headmaster, Buckswood Grange  
Uckfield, East Sussex TN28 8PU**

# HERROW SCHOOL

Opportunities to teach at Herrow will arise in the following subjects for September 1987 or January 1988.

- \* MATHEMATICS \*
- \* MODERN LANGUAGES \*
- \* CLASSICS \*
- \* HISTORY \*

Applicants should write to the Head Master, Herrow School, Herrow on the Hill, Middlesex HA1 3HW with full curriculum vitae and the name and addresses of 2 referees. Own salary scale. Accommodation provided.

1408







## Wirral Metropolitan College

Department of Health, Faahlon and Social Studies  
**LECTURER GRADE 1 - HAIRDRESSING (Ref: ext/13)**  
to teach full and part-time students up to Advanced City and Guilds level.

Department of Electrical Engineering  
**LECTURER 1 - ELECTRICAL ENGINEERING (Ref: ext/02)**  
Applications are invited for the above post, with applicants having sound knowledge of electrical machines. Candidates should preferably possess a HNC or a degree.

**LECTURER 1 - ELECTRICAL INSTALLATION (Ref: ext/03)**  
Applications are invited for the above post. Applicants should possess appropriate educational and professional qualifications together with relevant industrial experience.

Department of Business and Management Studies  
**LECTURER GRADE 1 IN BUSINESS AND MANAGEMENT STUDIES (Ref: ext/12)**

**LECTURER GRADE 1 - SECRETARIAL STUDIES (Ref: ext/04)**  
at the Borough Road, Birkenhead site of the College.

**LECTURER GRADE 1 - BUSINESS AND SECRETARIAL STUDIES (Ref: ext/05)**  
at the Borough Road, Birkenhead site of the College. Two half-time posts may be considered.

Department of Science and Mathematics  
**LECTURER 11 IN CHEMICAL ENGINEERING (Ref: ext/06)**  
to teach Chemical Engineering on the BTEC HNC and HND Programmes. Ability to offer Computer Based Process control desirable.

Department of General Education  
**LECTURER 1 ENGLISH (Ref: ext/08)**  
**LECTURER 1 COMMUNICATION/GENERAL STUDIES (Ref: ext/09)**

Department of Adult and Continuing Education  
**LECTURER 1 IN SECOND CHANCE EDUCATION (Ref: ext 107)**  
the department requires an experienced person to teach on the following courses:  
Women Returners Courses; Second Chance to Learn  
A degree and teacher training are desirable.  
Application forms and further particulars are available from the Principal's Secretary, Wirral Metropolitan College, Borough Road, Birkenhead L42 9GD  
CLOSING DATE 29th June 1987

ALL APPLICANTS WILL BE CONSIDERED ON THE BASIS OF SUITABILITY FOR THE POST REGARDLESS OF SEX, CREED, RACE OR DISABILITY.

### COLLEGES OF FURTHER & TERTIARY EDUCATION

**DEVON**  
An Equal Opportunity Employer  
**SOUTH DEVON COLLEGE OF FURTHER EDUCATION**  
DEPARTMENT OF ENGINEERING AND TECHNOLOGY  
REQUIREMENT: From 1st September 1987 to teach Computing and Information Processing on the BTEC HNC and HND courses. Applicants should have recent experience in the area of small business systems. Teaching experience desirable but not essential.  
Salary Scale: £12,643 - £11,892 per annum FE (part-time) plus scale according to qualifications and experience.  
Further details available from the Chief Administrative Officer, South Devon College of Arts & Technology, Newton Road, Torquay, Devon TQ2 9JF. Tel: 0392 55911. Fax: 0392 55912. Closing date: 1 July 1987. 289926

**DUDLEY METROPOLITAN BOROUGH**  
Equal Opportunity Employer  
**HALESOWEN COLLEGE**  
(A Tertiary College)  
**LECTURER FOR COMPUTING**  
The college opened in September 1982 and now has over 130 full-time staff and some 1250 full-time students, nearly half on 'A' level courses. On a hilltop within sight of the city, the college has excellent facilities and facilities.  
An enthusiastic lecturer is required for September to join the computing team in this expanding department. The post is a full-time position with a salary scale of £12,643 - £11,892 per annum. The post holder will be responsible for the teaching of the BTEC HNC and HND courses in Computing and Information Processing. The post holder will also be responsible for the development of the department and the establishment of new courses currently being introduced at the college.  
The college possesses five excellent computer laboratories, a fully equipped computer room, a video suite, a microcomputer suite, a laser printer, a word processor and a range of other facilities. The post holder will be responsible for the teaching of the BTEC HNC and HND courses in Computing and Information Processing. The post holder will also be responsible for the development of the department and the establishment of new courses currently being introduced at the college.  
Further details of this post are available from the College.  
Apply by letter enclosing a CV to: David Turner, Principal, Halesowen College, Whitton Road, Halesowen, West Midlands B63 3NA. Closing date 28th June. (24188) 289926

**DURHAM**  
**NEW COLLEGE DURHAM**  
An institution of Further and Higher Education  
**SCHOOL OF TECHNOLOGY**  
**LECTURER IN CARPENTRY AND JOINERY**  
Applications are invited from suitably qualified persons to teach practical and associated subjects on craft, certificate and HNC courses in Carpentry and Joinery. The post holder will be responsible for the teaching of the BTEC HNC and HND courses in Carpentry and Joinery. The post holder will also be responsible for the development of the department and the establishment of new courses currently being introduced at the college.  
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**ENFIELD**  
**LONDON BOROUGH OF ENFIELD**  
EDUCATION DEPARTMENT  
**TECHNICAL COLLEGE**  
Principal: A. A. Euston, M.A., C. Eng., P.I. Mech. E., F.R.S.A.  
The following posts will be available from 1 September 1987:  
**SENIOR LECTURER**  
Post Ref: 25  
Technology in Computer Studies  
The post holder will be responsible for the teaching of the BTEC HNC and HND courses in Computer Studies. The post holder will also be responsible for the development of the department and the establishment of new courses currently being introduced at the college.  
Further details of this post are available from the College.  
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## ACTON COLLEGE

**Deputy Head of Department (SL) Catering & Accommodation Services**  
We are looking for an enthusiastic and well qualified teacher with particular interest and expertise in food preparation to develop the catering and allied work in this college. We are especially pleased for growth in this area and need a person with drive and energy to take a lead in this area. An interest in vegetarian and international cookery would be an advantage.

**Lecturer I (two permanent posts, one temporary for one year)**  
We are looking for lecturers to teach electrical installation and some associated subjects to City and Guilds Craft Students. The posts are suitable for new entrants to teaching.

**Lecturer I In Vocational Guidance and Counselling**  
Applications are invited from suitably qualified and experienced candidates in vocational guidance, who have a genuine commitment to equal opportunities.

The post arises from the development of a comprehensive student support service and will involve development work, individual guidance and an input into the students' tutorial programme.  
Apply for further details and application form to: D. G. Straughen, Chief Administrative Officer, Acton College, Mill Hill Road, Acton, London W3 8UX  
Telephone: 01-893 2344 ext 2609  
Closing date for all posts 3rd July 1987.

**Being a new council welcomes applications regardless of sex, race, ethnic origin, sexual orientation, disability or responsibility for dependants.**

## Thyrside Regional Council

**FURTHER EDUCATION**  
**ANGUS TECHNICAL COLLEGE**  
KEPTIE ROAD, ARBROATH DD11 3EA  
(Telephone 0241-72056)  
**MARKETING CO-ORDINATOR SLII**  
(Salary £12,318-£14,463)

Applications are invited from suitably qualified and experienced persons for the above post. The successful candidate will be responsible for continuing the implementation of the College's recently established marketing policy and for developing short courses and community liaison.  
Applicants should be qualified and experienced Further Education lecturers with the particular skills which would enable them to tackle the specialist responsibilities of this post.

**BUSINESS STUDIES AND PUBLIC ADMINISTRATION - SECTION LEADER SLII**  
(Salary £12,318-£14,463)

Applications are invited from suitably qualified and experienced persons for leading the college Business Studies and Public Administration section, which runs full time and part time courses/programmes in these subject areas.  
Applicants should be experienced further education lecturers capable of teaching relevant subjects at both advanced and non advanced levels including particularly public administration. Commercial experience is also very desirable.  
Application forms and further details may be obtained from the Principal at the above address. Completed applications should be returned by FRIDAY, 3 JULY 1987.

**TAYSIDE REGIONAL COUNCIL**  
IS AN EQUAL OPPORTUNITIES EMPLOYER

## NORTH HERTS COLLEGE

**Letchworth Technology Department**  
**Lecturer Grade II in Electronics and Micro Processing**  
Outstanding opportunity to lead course and equipment development.  
Salary Scale £8595 - £13656. Pay award pending.  
Closing date: July 3rd 1987.

Further particulars and application form from the Principal's Secretary, North Herts College, Cambridge Road, Hitchin, Herts. SG4 0JD.

## COVENTRY TECHNICAL COLLEGE

**LECTURER I IN TIMBER TRADES**  
Applications are invited from suitably qualified people to teach Carpentry and Joinery in both the practical and theoretical aspects, together with associated subjects, from 1st September 1987. Opportunity will be given for the successful applicant to share in the organisation and running of the section, working with a young and vigorous team.

Applicants should possess a minimum of Final/Advanced Craft Certificate at the City & Guilds London Institute. Other qualifications such as a Full Technological Certificate in Building Crafts and Craft Certificate in Machine Woodworking coupled with relevant industrial experience would be advantageous, as would Teacher Training.

**LECTURER I IN COMPUTING STUDIES**  
As a result of a promotion a vacancy exists for a lecturer to join our busy and expanding New Technology Unit. The successful applicant will:

- teach on BTEC Diploma Courses  
- assist in the development of short courses and conferences for industry  
- help with the administration of the Unit  
- have an interest in open learning techniques

Salary for these posts up to £11,865 with progression to £13,466 (pay award pending).

For further particulars and application forms, please ring the College on 0203 57221 ext. 282 (24 hour Answerphone), to be returned by Monday 29th June 1987.

We welcome applications from men and women regardless of disability, race or marital status.

PHONE (0203) 57221

## DERBY COLLEGE OF FURTHER EDUCATION

**LECTURER I IN PLUMBING**  
Lecturer 1 - £8,843-£13,656  
Required for September 1987 to teach craft skills to all courses in the Mechanical Services section.  
Application form and further details are available from The Chief Administrative Officer, Derby College of Further Education, Wilmore Road, Derby DE2 2UG.  
Closing date - 26 June 1987.

**HIGH PEAK COLLEGE**  
**TEMPORARY LECTURER I IN EARLY CHILDHOOD EDUCATION**  
(From 1 September 1987 to 31 August 1988)  
To contribute to Nursery Nursing Education and Child Development an NNEB and related courses. This is an excellent opportunity to join an enthusiastic team of staff teaching in an expanding area of the curriculum. Applicants should be either NNEB trained or a qualified Nursery Teacher.

Further details and application forms from the Principal, High Peak College, Harpur Hill, Buxton, Derbyshire, SK17 9JZ. Tel: Buxton (0296) 71100.  
Closing date - 3 July 1987.

The Council's policy is that all people receive equal treatment regardless of their sex, marital status, sexual orientation, race, creed, colour, ethnic or national origin or disability.

## DERBYSHIRE County Council

Supports Nuclear Free Zones

## BARROW IN FURNESS COLLEGE OF FURTHER EDUCATION

Howard Street, Barrow in Furness, Cumbria LA14 1NB  
Tel: (0229) 25017

## STAFF DEVELOPMENT OFFICER (SENIOR LECTURER)

Salary Scale: £12,615 - £14,820 (bar point)

This new appointment offers an excellent opportunity to the right individual. You will be responsible to the Principal for the analysis of need, the organisation and implementation of staff development activities for all College staff.

You should be a graduate, teacher trained and have relevant industrial/commercial experience.

Further particulars and application forms from the Principal to be returned no later than Friday, 3 July 1987.

(40903)

## COLLEGES OF FURTHER & TERTIARY EDUCATION

**ESSEX**  
**COUNTY COUNCIL**  
**SOUTHERN COLLEGE OF TECHNOLOGY**  
Southend-on-Sea  
Tel: 0702 355551  
Applications are invited for the following posts, available from 1 September 1987, as soon as possible thereafter:  
**LECTURER I IN COMMUNICATIONS AND PSYCHOLOGICAL STUDIES**  
Teaching areas to be covered include: Literacy, writing, BTEC work, communications and general studies with craft students. 'A' level Literature, 'O' level Communications, 'O' level Psychology. The vacancies arise through promotions.  
**LECTURER I IN MOTOR VEHICLE ENGINEERING**  
To teach basic Motor Vehicle principles, mainly to C & G 381.  
**LECTURER I IN MECHANICAL SERVICES (PLUMBING)**  
Applicants should have good industrial experience and hold a C & O Advanced Craft Certificate. Closing date for applications: Monday 6 July 1987. 289926

**LECTURER I IN MATHEMATICS AND NUMERICAL ANALYSIS**  
To teach to C & O and BTEC programmes, an ability to develop health food cookery teaching is essential.  
**LECTURER I IN FOOD AND BEVERAGE SERVICE**  
To teach to C & O and BTEC programmes, especially those in the training Restaurant and other public outlets; opportunities to teach in other parts of catering programme.  
**LECTURER I IN BUSINESS EDUCATION SECRETARIAL SKILLS**  
To teach in two areas, from: word processing, keyboard, shorthand, stenography, business administration, Commercial and Secretarial Studies. Salary: £12,643 - £11,865 (under review). Further details and application forms from the College Administrator (Staffing) - Ext. 306, to whom completed applications should be returned by Monday 28th June 1987. 1383051 289926

**ESSEX**  
**CHELMSEA COLLEGE OF FURTHER EDUCATION**  
Quevedo, Moulton Street, Chelmsford CM1 9JQ  
Applications are invited for the following posts:  
**LECTURER GRADE 1**  
To teach Mathematics on GCE 'A' level and BTEC National Certificate Courses in Business Administration. Salary: £12,643 - £11,865 (under review). Further details and application forms may be obtained from the Principal, Chelmsford College of Further Education, Quevedo, Moulton Street, Chelmsford CM1 9JQ. Tel: 0206 25017. Closing date: 3rd July 1987. 289926

**HAMPSHIRE**  
**CRICKLAKE COLLEGE**  
**DEPARTMENT OF SCIENCE & TECHNOLOGY**  
**LECTURER I IN BIOLOGY/ENVIRONMENTAL STUDIES AND/OR CHEMISTRY**  
Required for September 1987 or as soon as possible thereafter to teach any or all of the above subjects at O level and/or 'A' level.  
Cricklake is a tertiary college under 18 regulations. Salary: £8,843 - £13,656. Policy of equality of opportunity. Applications, particularly from women, are encouraged.  
Further details and application forms may be obtained from the Principal, Cricklake College, Cricklake, Dorset, BA11 1JZ. Tel: Andover (0242) 811. 289926

**HAMPSHIRE**  
**FAREHAM TERTIARY COLLEGE**  
Required as soon as possible:  
**LECTURER I IN CHEMISTRY AND COMPUTING**  
The post holder will be responsible for the teaching of the BTEC HNC and HND courses in Chemistry and Computing. The post holder will also be responsible for the development of the department and the establishment of new courses currently being introduced at the college.  
Further details of this post are available from the College.  
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## HARLOW COLLEGE

(A Tertiary College maintained by Essex County Council)

## LECTURER I COMPUTING (Re-advertisement)

Required for 1 September 1987 to join the Computing Division to teach on, and to assist with the development of, BTEC National Diploma, G.C.E., City & Guilds and short courses for industry.

Salary scale Lecturer I £8843 - £13656 plus fringe allowance. Previous applicants will be considered.

Application forms and further particulars are available from THE PRINCIPAL, Harlow College, Collage Square, The High, Harlow, Essex CM20 1LT, on receipt of a stamped addressed envelope.

Closing date for applications 3 July 1987.

(40903)

## ESSEX County Council

## WILLESDEN COLLEGE OF TECHNOLOGY

Acting Principal: P E Fuesell, BSc(Eng) CEng MICE FIMache FIWES

## DEPARTMENT OF LIBERAL STUDIES

## Lecturer I (3 posts)

Required for September 1987.

The Department is responsible for the servicing of English and General Communication Studies throughout the College at pre-vocational, craft and technician level. In addition the Department is involved with a number of links with the local community and offers a range of courses including a Return to Study course, Women's courses, English, Basic Numeracy and Computer Literacy, and 'O' and 'A' levels in the Social Sciences.

Applications are invited from candidates to teach on the full range of General and Communication Studies programmes. An ability to offer English Language Support or Computer Literacy/Basic Numeracy would be an advantage.

It is desirable for candidates to possess a degree or equivalent qualification. They should have a recognised teaching qualification; previous teaching experience is desirable.

## DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

Applications are invited for the following posts which become available from 1st September 1987.

## Lecturers I in Refrigeration and Air Conditioning

To teach Refrigeration and Air Conditioning Technology, theory and practice to students preparing for City and Guilds of London Institute craft examinations and for the Certificate of Pre-vocational Education. Candidates must have relevant practical experience. An appropriate CGLI qualification is desirable. Some experience of apprentice training or similar would be an advantage.

## Lecturer II in Refrigeration and Air Conditioning

To teach a range of subjects from the Refrigeration and Air Conditioning disciplines to students preparing for craft, advanced craft and technician certificate qualifications. Candidates must be suitably qualified to technician higher certificate level or equivalent with significant appropriate industrial experience. A teaching qualification and teaching experience are desirable but not essential.

## Senior Lecturer in Refrigeration and Air Conditioning (Post 1)

To teach a range of subjects from the Refrigeration and Air Conditioning disciplines to students preparing for qualifications up to HNC/HND level. Candidates must possess an HNC/HND or equivalent in an appropriate discipline and be a Corporate member of a relevant professional institution. Significant relevant industrial experience is essential. Although candidates for a post at this level are normally expected to have teaching experience, industrially based engineers with good communication skills are also invited to apply for this post. The successful candidates will be expected to teach at least 3 of the following subject areas: Thermodynamics, Thermofluids, Heat Transfer, Air Conditioning Theory, Advanced Refrigeration Theory, Project Work.

## Senior Lecturer in Refrigeration and Air Conditioning (Post 2)

To teach a range of subjects from the Refrigeration and Air Conditioning disciplines to students preparing for qualifications up to HNC/HND level. Candidates must possess an HNC/HND or equivalent in an appropriate discipline and be a Corporate member of a relevant professional institution. Significant relevant industrial experience is essential. Although candidates for a post at this level are normally expected to have teaching experience, industrially based engineers with good communication skills are also invited to apply for this post. The successful candidates will be expected to teach at least 3 of the following subject areas: Thermodynamics, Thermofluids, Heat Transfer, Air Conditioning Theory, Advanced Refrigeration Theory, Project Work.

## DEPARTMENT OF SCIENCE

## Lecturer I in Chemistry

Required for September 1987. The post involves working with a team of Lecturers teaching chemical subjects to GCE, GCSE, BTEC and CPVE courses.  
Applicants must hold a teaching qualification, and a degree or equivalent qualification in Chemistry.  
Salary Scales - SL: £13,725-£18,9





## WEST GLAMORGAN County Council

### Education Department LECTURING VACANCIES

Applications are invited for the following posts to commence as soon as possible:  
Application forms and further particulars for the following posts must be obtained from the appropriate college concerned.

**Gorsellon College, 52/58 Belgrave Road, Gorsellon, SA4 2RF**

**LECTURER IN BIOLOGY/CHEMISTRY.** The successful candidate will be expected to work in the study team of Science and Health Studies and to service the needs of any college course requiring an input in Biology. This will include initially courses at 'A' level, G.C.S.E., and B.T.E.C. in Science and Health. The successful candidate will also have to contribute to the college chemistry teaching programme to G.C.S.E. level and 'A' level. (Post Ref: 319/87).

**Neath College, Dwr-y-fellin Road, Neath, SA10 7RF.**

**LECTURER IN CHEMISTRY.** Good Honours graduate in chemistry to teach Inorganic Chemistry/Materials Science to H.N.C. and Royal Society of Chemistry Courses and General Chemistry to a wide variety of courses. Preference will be given to candidates with research experience and a higher degree. Substantial appropriate teaching experience will be required for an appointment at Lecturer II level however recently qualified applicants will be considered for appointment at Lecturer I. (Post Ref: 419/87).

**Swansea College, Tycoch, Swansea, SA2 8EB.**

Swansea College is a Tertiary College in its third year of existence with a full-time student roll of approximately 1,200. The college also caters for a wide range of part-time and evening students in the City of Swansea.

1. **SENIOR LECTURER IN ENGLISH AND COMMUNICATIONS.** The successful candidate will be an Honours Graduate in English with a teaching qualification and teaching experience. His/her responsibilities will include the running of the Languages Section within the college. He/she will also be expected to make a significant contribution to college management and an ability to lead a group of staff with enthusiasm and commitment is essential. (Post Ref: 519/87).

2. **LECTURER IN DRAMA.** Applicants should be highly qualified Drama specialists with a teaching qualification and teaching experience. The person appointed will join an active team in the Creative Arts section and will be expected to contribute considerably to the staging of college productions. The successful candidate will teach Drama at 'A' level, G.C.S.E. level and to students following vocational courses. (Post Ref: 619/87).

Application forms and further particulars for all posts can be obtained from the appropriate college concerned on receipt of a large stamped addressed envelope, quoting the post reference. The CLOSING DATE for receipt of completed applications is THURSDAY, 2ND JULY, 1987.

## COLLEGES OF FURTHER & TERTIARY EDUCATION

continued

KENT COUNTY COUNCIL

EDUCATION DEPARTMENT

Applications are invited for the following posts to commence as soon as possible:

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## KENT COUNTY COUNCIL

### Principal Lecturer

Manager of The College Training Services and Re-Adaptation for:

**Senior Lecturer**  
College Marketing Consultant

Following the promotion of both the existing postholders applications are invited for the two posts. The ability to work as a member of a team is necessary with the following skills of Management, Leadership and liaison within the College and external institutions.

**Salaries:**  
Principal Lecturer £14,784 - £16,458  
Senior Lecturer £12,615 - £14,820  
plus £308 Fringe Area Allowance

Generous relocation expenses in accordance with Surrey County Council Scheme.

For application form and further details please contact: The Training Officer, Guildford College of Technology, Stoke Park, Guildford, Surrey GU1 1EX (0492 31251 Ext. 203)

Further details and application forms available from: The Principal, Watford College, Hemel Hempstead Road, Watford, Herts, WD1 3EZ (Tel: Watford 57631).

CLOSING DATE: 3 JULY 1987

WATFORD COLLEGE

## KILBURN POLYTECHNIC

Prory Park Road NW6 7UJ

DEPARTMENT OF FASHION, FOOD AND COMMUNITY STUDIES

Lecturer II in Sewing and Light Clothing Assembly

(Temporary Unestablished Post)

POST NO. 87/15

Required from 1st September to teach Sewing and Light Clothing Assembly for one year from 1st September 1987 until 31st August 1988 to replace a member of staff on maternity leave.

The department offers a range of full and part-time courses leading to the BTEC Certificate and Diploma in Clothing and the City and Guilds of London Institute 460 Clothing Craft Certificate and Foundation courses. Candidates should have appropriate professional qualifications and industrial experience.

Lecturer I in Catering Subjects

POST NO. 87/16

Lecturer I in Catering Subjects

(Temporary Unestablished Post from 1st September 1987 to 31st August 1988)

POST NO. 87/17

Required from 1st September to teach on Catering Courses which includes full and part-time City and Guilds 706/72 and Foundation courses.

Candidates should have appropriate professional qualifications and/or industrial experience.

Salary: Lecturer I £6,843-£11,865

Lecturer II £8,595-£13,656

Plus London Allowance of £1,110

Brent is an equal opportunities employer. Applications are welcome from candidates, irrespective of race, nationality, ethnic or national origins, age, marital status, gender, and from lesbians, gay men and disabled persons.

Brent is fully committed to Multi-Cultural Education.

Further particulars and application forms, returnable within 14 days of this advertisement may be obtained from the Principal on receipt of a S.A.E.

London Borough of BRENT

Brent is an Equal Opportunity Employer

WALTHAM FOREST COLLEGE for Further & Higher Education

Department of Construction

Lecturer Grade I

Plumbing and Building Services. To teach on City & Guilds 603, BTEC Certificate and Diploma programmes.

School of Catering, Hotel Administration and Tourism

Lecturer Grade I

Food Preparation and related subjects. To teach Craft and BTEC students. First Class trade experience is essential. Teacher training may be arranged.

This post is to cover for long term illness of a permanent member of staff and is therefore temporary in the first instance.

Both posts to commence 1st September 1987 or as soon as possible thereafter.

Salary: Lecturer Grade I - £7638 to £12980

Point on Scale according to age and experience.

Application forms and further details from the College Personnel Services Officer, Waltham Forest College, Forest Road, London E17 4JH. Telephone 01-527 2311 Extension 244.

Closing date: 2 weeks from appearance of advertisement.

WALTHAM FOREST IS A MULTI-RACIAL AREA AND WE ARE ANXIOUS TO ENSURE THIS IS REFLECTED IN OUR WORKFORCE. WE WELCOME APPLICATIONS FROM PEOPLE REGARDLESS OF RACE, COLOUR, CREED, ETHNIC OR NATIONAL ORIGIN, AGE, DISABILITY, MARITAL STATUS, SEX OR SEXUAL ORIENTATION.

Waltham Forest

Progress with humanity

Haringey is an equal opportunity employer. We welcome applications from people of all races, ethnic origins, age, sex or any disability you may have.

Application forms and further details from the Vice Principal (HSE) returnable within 14 days of the advertisement.

Haringey

Progress with humanity

NOTTINGHAMSHIRE COUNTY COUNCIL

EDUCATION DEPARTMENT

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## Nene College Northampton

### Faculty of Technology

It is required to fill the following post by 14th September or as soon as possible after that.

Full time permanent **LECTURER GRADE II IN ELECTRONIC AND RADIO COMMUNICATIONS ENGINEERING**. Knowledge and industrial experience of modern systems essential. Degree and/or membership of professional institution preferred. Teaching practice and understanding of BTED desirable although part time training available if required.

Application forms available from The Dean, Faculty of Technology, Nene College, St. George's Avenue, Northampton NN2 6JD.

Completed applications to be returned within 2 weeks of the appearance of this advertisement.

Northamptonshire County Council welcomes applications regardless of marital status, sex, race and disability.

## COLLEGES OF HIGHER EDUCATION

continued

### HAMPSHIRE

KING ALFRED'S  
COLLEGE  
Winchester

LECTURER/SENIOR  
LECTURER IN  
TECHNOLOGY  
WITH PROFESSIONAL  
STUDIES

Applications are sought from well qualified graduates for a full time permanent post in the Faculty of Technology. The successful candidate will have broad experience in the area of Technology and will be able to contribute to the professional work of the Faculty. The ability to contribute to the professional work of the Faculty is essential. The successful candidate will be responsible for the delivery of the programme of study and for the assessment of students. The successful candidate will be responsible for the delivery of the programme of study and for the assessment of students.

A higher degree or research experience in an appropriate field would be an advantage. The college offers a programme of C.N.A.A. validated O.A.S. and S.E. courses, C.C.E. courses and a variety of in-service awards. The successful candidate will contribute to the professional work of the Faculty and to the assessment of students.

Application forms available from The Dean, Faculty of Technology, Nene College, St. George's Avenue, Northampton NN2 6JD.

Completed applications to be returned within 2 weeks of the appearance of this advertisement.

Northamptonshire County Council welcomes applications regardless of marital status, sex, race and disability.

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## Adult Education

SOMERSET  
COUNTY COUNCIL  
COMMUNITY  
EDUCATION SERVICE

ADULT BASIC  
EDUCATION (A.B.E.) AREA  
COORDINATOR  
SOMERSET AREA

The County Council has adopted an ambitious development plan for its Adult Basic Education Service. The post will be based at Bridgwater College and the successful candidate will be responsible for co-ordinating the A.B.E. service in the Somerset area and for organising the A.B.E. work in Bridgwater. The appointment will be on a full-time basis. The successful candidate will be responsible for co-ordinating the A.B.E. service in the Somerset area and for organising the A.B.E. work in Bridgwater. The appointment will be on a full-time basis.

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## HARINGEY ADULT EDUCATION SERVICE

### Lecturer Grade I - Numeracy and Everyday Maths

Applications are invited from people who have experience of developing and providing numeracy and basic education for adults in a variety of community contexts. This post is one of two, which form a team developing adult numeracy on a borough-wide basis, and is based at White Hart Lane Adult Education Centre, London N22. This post is funded by an ALBSU local development grant, which ceases in December, 1987, at which time the Local Authority will assume full responsibility for the post.

The main responsibilities include: the organisation and delivery of the recently established Numeracy Resource Base and numeracy classes within the service; identifying numeracy needs of local communities in Haringey and making appropriate community-based provision; recruiting and training part-time tutors; teaching and providing support to students.

The Adult Education Service has recently adopted new policy guidelines which prioritise the needs of those members of local communities who experience educational disadvantage and cultural discrimination. The post holder will be expected to play a full part in the implementation of these policies.

Salary: Lecturer Grade I £9,058 - £13,080 including London Weighting.

Haringey Education Service is conscious that people from Black and Minority Ethnic communities, people who are bilingual, and those with disabilities are under-represented in the adult education teaching force. Applications from individuals from these groups are, therefore, particularly welcome.

Application forms and further details may be obtained from Helen Axfield, Staffing Officer, Further Education, 48 Station Road, Wood Green, London N22 4TY or telephone 991 3000 Ext. 3122.

Closing date: 3rd July, 1987.

For an application form, please apply in writing, to: Helen Axfield, Staffing Officer, Further Education, 48 Station Road, Wood Green, London N22 4TY or telephone 991 3000 Ext. 3122.

Previous applicants need not re-apply.

Closing date for receipt of completed application forms: 3rd July 1987.

Interviews for the post will be held on 16th/17th July 1987.

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## DETACHED YOUTH WORK PROJECT, BIRMINGHAM

### PROJECT LEADER

Salary: £11,952-£12,894 per annum

Barnardo's has been meeting the needs of young people at most severe risk for a number of years, by way of its outreach work from an existing Project.

It is now looking to create a detached youth work project to develop further work with young people involved in prostitution and crime and suffering from the effects of drug abuse, alcoholism and other associated problems.

The Project will service broadly the areas of Sparkhill, Sparkbrook and Balsall Heath, Birmingham.

A Project Leader is needed who will lead and develop this challenging new initiative, focussed upon those disaffected young people who see themselves as outside the current provision of established youth and community services.

Candidates must have the self-confidence, drive and imagination to work with very demanding young people, together with the ability to manage and support a team.

A Youth and Community Work or Social Work qualification, together with previous experience of detached work in an inner-city, multi-cultural environment, is essential. Applications from black workers will be particularly welcome as there is evidence that the Project should aim to meet the needs of a substantial number of black young people.

Barnardo's is a Christian Child Care organisation and offers conditions of service broadly in line with Local Authorities. Applications for posts are welcomed from persons irrespective of disability, marital status, sex or race. Transferable pension.

Informal enquiries to: Caroline Wette.

Tel: 021 550 5271.

For an application form, please apply in writing, to: Eileen Hopley, Personnel Secretary, Dr. Barnardo's, 'Brooklands', Great Cornbow, Halesowen, West Midlands B63 3AB.

Previous applicants need not re-apply.

Closing date for receipt of completed application forms: 3rd July 1987.

Interviews for the post will be held on 16th/17th July 1987.

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## YOUTH & COMMUNITY

Continued

LONDON WC2  
UNION THEATRE FOR  
CHILDREN

SENIOR WORKSHOP  
LEADER (FULL-TIME)

To oversee our programme of 600 workshops for 4-11 year olds, and to initiate new projects. Considerable experience in teaching workshops and in supervising performance with this age group is a necessity. Managerial experience would be an advantage. For further details in writing, please apply to: The Union Theatre for Children, Great North Street, London WC2H 7JB.

Interviews mid July, to start late August or early October. We welcome applications from suitably qualified candidates regardless of age, sex and disability. (24466) 440000

## NORTHUMBERLAND COUNTY COUNCIL

COLLIERIES LEAS, PORTLAND  
NE20 9EX  
YOUTH AND COMMUNITY  
TUTOR

Group 12, 13-16 Camp, of 1075 hours, 3rd and 4th years.

As an interest in outdoor activities and the Duke of Edinburgh award scheme would be an advantage.



## COUNTY EDUCATION OFFICE

Applications are invited from suitably qualified and experienced persons for these two key posts. Candidates must have had substantial administrative and managerial experience at a senior level in the education service. Both posts are within the Further and Community Branch, led by the Principal Education Officer (Further and Community).

## SENIOR EDUCATION OFFICER (2 POSTS)

SMG 3 £24,630-£26,742

## Youth, Adult and Community Education

To be responsible for directing the operation of the County's Youth, Adult and Community Education Services. The duties include directing a programme of activities including youth camps, residential centres and other recreational and cultural events including the County's Youth Orchestras. The person appointed will also be responsible for managing the Council's interests in both joint and dual use provision with District Councils and other bodies in relation to sport, recreational and arts activities.

## Careers, Industry Liaison and Employment

To be responsible for the Careers Service; developing and maintaining a large programme of projects and links with industry and commerce in relation to schools and colleges; providing support for the Council's employment promotion activities; and co-ordinating and ensuring the efficient discharge of the Council's responsibilities.

In respect of the major programmes undertaken for the Menpower Services Commission, especially those relating to the young unemployed.

Among the benefits offered are generous relocation expenses and car leasing facilities.

Closing date: 3 July 1987.

Application form and further details available from (SAE please) the County Education Officer, PO Box 47, Threanodde House, Market Road, Chelmsford CM1 1LD. (Tel Chelmsford 267222 Ext 2626).



## EDUCATION DEPARTMENT

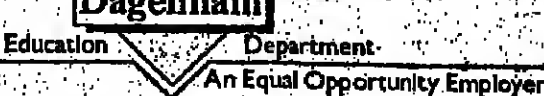
## Youth and Community Officer and Warden

Salary: JNC points 5-9 Range 4 plus London Weighting and Essential Car User Allowance £11,685 - £13,029 plus £1,110 (increase in salary and London Weighting pending).

Applications are invited from suitably qualified and experienced persons for the post of Area Youth and Community Officer and Warden who will have specific responsibility for the statutory clubs and voluntary organisations within the North Area of the Borough reporting to an Area Management Committee. The person appointed will be Warden of a club which offers facilities for activities involving the community at large.

Closing date: 3rd July 1987.

Particulars and application forms are available from the Chief Education Officer, Ref: CSH, Town Hall, Barking, Essex IG11 7LU.



## YOUTH LEADER

£10059 - £11217

Viking Boys' Club is established in a purpose built Youth Centre in the well populated inner City Area of Rock Ferry and caters for a mixed clientele and is managed by a voluntary committee. Responsible for continuing the work of the Centre whilst developing Youth and Community activities in the area.

Qualification in Youth and Community education essential.

For informal discussion contact Derek Mills, Youth Officer (Field) ext. 808.

Application form and further particulars from DIRECTOR OF EDUCATION, Municipal Buildings, Cleveland Street, Birkenhead, Merseyside L41 6NH (051-6477000 ext. 800) returnable by 3 July.

ALL APPLICANTS WILL BE CONSIDERED ON THE BASIS OF SUITABILITY FOR THE POST REGARDLESS OF SEX, CREED, RACE OR DISABILITY.

## YOUTH &amp; COMMUNITY continued

## TRAFFORD

METROPOLITAN BOROUGH OF TRAFFORD EDUCATION DEPARTMENT. Full-time Teacher. YOUTH WORKER. Required for October 1987 for a fixed term of not more than two years on J.N.C. Scale for Teachers. Salary £10,000 - £17,800 per annum. This post offers opportunities for professional and administrative training in full-time youth work. Application forms and further details available from the Chief Education Officer, PO Box 19, Town Hall, Salford, Greater Manchester M6 6UR. Tel: 061-872 9101 Ext. 3189. Closing date July 1987. 440000 (140646)

## Overseas

## Appointments

## AUSTRALIA

EFL teacher for new private college in Blue Mountains near Sydney. Graduate with BA in Education, needs to have Australian resident status or recognised qualifications. London interview, teaching to commence September 1987. c.v. to: Ann Baker College of English, Box 36, Katoomba, N.S.W. 9780, Australia. Tel: 047 851051. (140892) 460000

## CHINA

TEACHING POSTS IN CHINA. The British Educational Trust is recruiting teachers for its client in China. Minimum qualifications: degree plus RSCA. Salary: £10,000 - £17,800 per annum. One year contracts will be offered by the client. Please send your application and CV to the address below. School to provide accommodation and further information will be provided. Mr. Lewis, British Educational Trust, The Lodge, Red Cross Lane, Cambridge CB2 3DQ. (24995) 460000

## CHRISTIAN TEACHERS

FOR AFRICA. To teach Biology, Chemistry, Agriculture, TEFL, Arts and Commercial Subjects in Secondary Schools. School to provide accommodation and further information will be provided. Mr. Lewis, British Educational Trust, The Lodge, Red Cross Lane, Cambridge CB2 3DQ. (17282) 460000

## EGYPT

THE BRITISH INTERNATIONAL SCHOOL. HEAD OF THE PRIMARY DEPARTMENT. This well established school invites applications for the post of Head of the Primary Department from the 1st January 1988. Applicants should have experience in a post of special responsibility and ideally be able to offer expertise in the teaching of Mathematics and/or Science. Terms: An attractive tax-free salary, an excellent pension scheme, annual salary, air fares, baggage allowance, two year contract, renewable. Letters of application accompanied by c.v. with details and references of two referees and a recent photograph should be sent to: The Headmaster (BIC), 20 Coopers Park, Lisburn, Co. Down, N. Ireland BT28 3AQ. (01234) 244000. Interviews will be held in London in the end of July 1987. 460000

## FINLAND

A private School of Languages in Helsinki. Teachers of ENGLISH to start August 1987. Good pay, accommodation, travel to Finland paid by the school. Apply with c.v., tel. and photograph to: The Headmaster, Finnish School of Languages, P.O. Box 100, Helsinki, Finland. (09) 244000. 460000

## GREECE

EFL teacher required for private school. Salary £10,000 - £17,800 per annum. Tel: 01-443 6660 or 01-443 6661. London W2 (05470) 460000

## GREECE

MAKRI MESSESS. EFL teacher required for private school. Salary £10,000 - £17,800 per annum. Tel: 01-443 6660 or 01-443 6661. London W2 (05470) 460000



## King Fahd University of Petroleum &amp; Minerals DHAHRAN, SAUDI ARABIA

## English Language Centre

Since 1963 the E.L.C. has been responsible for preparing approximately 1000-1400 male students per year for study in all-English-medium technical courses leading to the B.S. Degree in science, engineering or management. The Centre currently employs some 70 teachers (British, American, Canadian, Australian and Irish) and is expected to expand. The programme is biased towards English for Academic Purposes. Well-equipped language labs, 5 audio visual studios and 80 IBM PCs for CALL use form part of the technical equipment available.

We have opportunities for well-qualified, committed and experienced teachers of English as a Foreign Language as of September 1987. Applicants should be willing to teach in a structured, intensive programme which is continually evolving and to which they are encouraged to contribute ideas and materials.

**QUALIFICATIONS:** 1. M.A. in TEFL/ESL or Applied Linguistics. 2. A one-year, full-time postgraduate diploma in TEFL/ESL from a recognised University.

**EXPERIENCE:** Minimum two years' teaching experience in TEFL/ESL overseas.

**STARTING SALARY:** Competitive salaries depending on qualifications and experience. Details of interview time, salaries free of Saudi taxes.

## ADDITIONAL BENEFITS:

1. All appointments are either single or married status.
2. Rent-free, air conditioned furnished accommodation. All utilities provided.
3. Gratuity of one month's salary for each year worked, payable on completion of final contract.
4. Two months' paid summer leave each year.
5. Attractive educational assistance grants for school-age dependent children.
6. Transportation allowance.
7. Possibility of selection for University's ongoing Summer programme and evening programme with good additional compensation.
8. Outstanding recreational facilities.
9. Free air transportation to and from Dahrhan each year.

Contract: For two years - renewable.

DEAN OF FACULTY & PERSONNEL AFFAIRS  
KING FAHD UNIVERSITY OF PETROLEUM AND MINERALS  
DEPT: 660/GRD/8704 DHAHRAN 31261  
KINGDOM OF SAUDI ARABIA

## SAUDI ARABIA - JEDDAH

## LECTURERS - ENGLISH LANGUAGE

(Re-advertisement. Previous application will be reconsidered) WES has been asked to recruit 6 EFL Lecturers to teach a Basic English Course to Saudi Arabian Students training for Port Management.

Salary: 78,000 Saudi Riyale per annum  
3 return air fares to the UK per year  
Free bachelor accommodation and medical facilities

Candidates should be graduates (English or Modern Languages) with a teaching and TEFL qualification. Minimum of 3 years experience. Age range 25-50. Knowledge of Arabic an advantage. Please available immediately.

For further details and an application form write to:

The Director, World-wide Education Services, 6700 House, 44-50 Ouseburn Street, London NW1 3NN. Tel: 01-387 9228.

Interviews to be held as soon as possible.



## THE ENGLISH INTERNATIONAL SCHOOL OF PADUA

invites applications from suitably qualified and experienced

## PRIMARY SCHOOL TEACHERS

for the post of Reception Class Teacher in this new international school, starting September 1987.

Interviews will be held in London in July, please write, with c.v. and a telephone number, to: The English International School, via Savonarola 203, Padua, Italy.

## OVERSEAS POSTS continued

## GREECE

EFL teacher required for private school in Athens. Salary: £10,000 - £17,800 per annum. Tel: 01-443 6660 or 01-443 6661. London W2 (05470) 460000

## ITALY

INDEPENDENT INTERNATIONAL SCHOOL. TEACHER for GRADES 1-6/7/8/9/10/11/12. Duties will include: organisation of extra-curricular activities. ROME is a co-educational, independent day school. Age range 10-18. South west of the city situated on the Via Appia Antica. It is a branch of the International School of London. Please apply in writing with curriculum vitae and the names and addresses of two referees to the Headmaster, The International School of London, Crowlands Road, NW1 1TA. Tel: 01-487 46000

## ITALY

Chief. Qualified TEFL teachers with one year's experience required from September for nine months. Applications with full c.v. and photograph to: English Institute of Languages, Via L. D. Lolla 10, 66000 Chieti, Italy. (133791) 460000

## JAPAN

ENGLISH LANGUAGE SCHOOL. Requires TEFL Teacher immediately. Qualifications: Degree or C. of Ed. plus TEFL training and experience. Salary: 25 per week. Salary up to 5 years experience. Visa 150,000 per month. 5 years and over. Visa 180,000 per month. Free accommodation. Single air fare provided after completion of year contract. Return fare after completion of 5 year contract. C.V. including photo and copies of qualifications to: Mr. K. Morimoto, 3-95-1, Chomei Higashinaka, Kure City, Hiroshima Prefecture, Japan 737. (139338) 460000

## KUWAIT

PROGRESSIVE SCHOOL IN KUWAIT. HEAD OF HISTORY/IOA. GCSE and new GCSE syllabus. PRIMARY TEACHERS - TEFL experience an advantage. Tax free salary, free furnished accommodation, air-conditioned, well-managed building. Please forward full c.v. with curriculum vitae, name and address of two referees plus telephone numbers and a recent photograph to: The Principal, P.O. Box 4898, Sotol 140643. Kuwait. 460000

## Posts Overseas

## Malaysia

## DIO Manager, The British Council Language Centre, Penang

Duties: the appointee will be responsible for the professional, administrative and financial management of the English Language Centre.

Qualifications: candidates should have a TEFL qualification (preferably RSA Dip. TEFL or PGCE TEFL) and, preferably, MA in Applied Linguistics/TEFL and 5 years' TEFL/ESL experience including 2 years' in a senior post. Previous DIO and management experience desirable.

Salary: M\$4,650 per month rising by annual increments to M\$6,050 per month (M\$4.12 = £1).

Benefits: airfares; baggage allowance; settling-in allowance; medical scheme; children's school fees; superannuation; passage-paid leave.

Contract: 2 year contract from mid-August 1987.

Closing date: 26 June 1987.

Reference: 87 D 807.

## United Arab Emirates

## Al Nahda National Schools, Abu Dhabi

Post 1: male Biology and Chemistry teacher for 'O' and 'A' level students aged 15-18.

Post 2: male Chemistry teacher for 'O' and 'A' level students aged 15-18.

Post 3: female Mathematics teacher for 'O' and 'A' level students aged 12-18 and preparatory classes.

Post 4: female Mathematics and Computer Studies teacher for students aged 12-17 at 'O' level plus two previous classes.

Qualifications: candidates should be either single or married teaching couple without children, aged 25-35, native English speakers, with British or equivalent qualifications in the appropriate degree subject and a teaching certificate or B Ed and at least three years' experience.

Candidates must be available for a September start.

Salary: Dhs 36,000 - Dhs 39,000 per annum, free of local tax (3:1 - Dhs 6.9 approx).

Benefits: free furnished accommodation; cost of living allowance of Dhs 18,000 per annum; annual passage-paid leave; terminal grant; baggage allowance.

Contract: for 2 years, renewable by mutual agreement.

Closing date for applications: 3 July 1987. Please telephone 01-408 8011 ext 3149 or 3323 for details and an application form.

Reference: 87 A 84-877.

## Key English Language Teaching Scheme

The KELT scheme is part of Britain's Aid Programme to developing countries.

## Burundi

Post 1: Lecturer in English Language and ELT Methods, University of Burundi.

Duties: to teach at Licence level up to 200 hours p.a. main EL skills and methodology courses; supervise teaching practice and final year dissertations; develop teacher training course and, if appropriate, advise on content of new ELT methodology courses; participate in in-service teacher training seminars; co-ordinate TCTP and BPP.

Post 2: ELT Adviser in in-service teacher education and English for scientific and technical purposes, Ministry of Education.

Duties: in collaboration with English sections of the curriculum development and in-service training departments of the Ministry (HEPES, BEET) to develop in-service teacher training support; mini seminars for 'animation pédagogique'; advise as appropriate on new BEPES materials; development of teachers guide; co-ordinate TCTP and BPP.

Qualifications: both posts: UK citizens with a British educational background; first degree and MA in Applied Linguistics/TEFL; at least 5 years' ELT experience, preferably in Francophone Africa. Good French essential.

Post 2: experience in ESP and materials development desirable.

Salary: Post 1: £10,888-£13,181 p.a. Overseas allowances: £4,270-£11,806 p.a. depending on salary levels and marital status.

Post 2: £12,268-£17,093 p.a. Overseas allowances: £3,937-£11,197 p.a. depending on salary and marital status.

Date of appointment: September 1987. Closing date for applications: 14 July 1987. Reference: 87 K 8-87.

Benefits for the above post: salary free of UK income tax; free family passage; children's education allowances and holiday visits; free furnished accommodation; outfit allowance; baggage allowance; medical scheme; employer's contribution to a recognised superannuation scheme or an allowance of 11% of salary in lieu.

For further details and an application form, please write, quoting the post reference number, to: Overseas Educational Appointments Department, The British Council, 65 Davies Street, London W1Y 2AA.

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## Government of BRUNEI DARUSSALAM

The Curriculum Development Centre of the Department of Education invite applications from suitably qualified candidates for the posts of

## EDUCATION OFFICER

in the following disciplines

- a) English
- b) Geography
- c) History
- d) Mathematics
- e) Combined Sciences (Biology/Chemistry/Physics)

Applicants should possess a Bachelor Degree, with Honours, in one of the above disciplines from a recognised University together with a post graduate Diploma in Education and a minimum of 3 years' teaching experience at Primary and Secondary levels. A Higher academic qualification is desirable.

## Terms of Appointment

The initial contract is for 3 years, renewable subject to mutual agreement.

The basic Salary, depending on qualifications and experience, will be within the range of £7,670 to £14,330 p.a. In addition there is an annual bonus and a 25% tax free gratuity on the successful completion of contract.

Other benefits include: free passages; children's education allowances; generous paid leave, subsidised housing and an interest-free car loan.

Notes: The salary quoted is based on an exchange rate of £1 = B\$ 3.55 as at 15th May 1987. There is no personal income tax in Brunei Darussalam at present.

For an application form please write to, or contact:

The Brunei Darussalam High Commission, Recruitment Unit, 49 Cromwell Road, London SW7 2ED. Telephone: 01-581 0521 Extension 34.

Closing date for applications - 6th July 1987. Only shortlisted candidates will be contacted.

## Teacher

U.K.-style Primary School Saudi Arabia  
£11,500

The National Guard King Khalid Hospital in Jeddah is one of the most prestigious medical complexes in the Kingdom. It employs an international staff, many of whom have their families with them, and for this reason the complex includes a U.K.-style primary school which currently has 80 pupils and a 25-place crèche.

To complement the staff at the school, which is excellently equipped and fully air-conditioned, an experienced female teacher is now being sought for a mixed ability, vertically grouped class of twenty, 6 to 8 years olds. The children are all English-speaking and all of the teaching staff, including the Head Master, are British.

Trained in the U.K. and with a Cert. Ed. or a B. Ed., you must have had at least five years' experience of teaching top infants or lower juniors and should be able to show evidence of continuous updating in primary education. You should also be able to demonstrate a high level of enthusiasm for both classroom work and extra-curricular activities. Previous overseas experience and a familiarity with vertically-grouped classes would both be advantages.

In addition to a tax-free salary of c.£11,500, you will enjoy excellent conditions of service, including free accommodation, the use of comprehensive leisure facilities, free medical care and three free trips to the U.K. each year.

Write with full career details to: Aubrey Magill, PER International, c/o House, 4-12 Regent Street, London SW1Y 4AP.

## The Centre for British Teachers

## Summer All Year Round?

That's one of the more frivolous advantages enjoyed by over 60 teachers who have joined our Primary EFL teaching project in Brunei. Other benefits include







## GENERAL ADVISERS

(FOUR POSTS)

**SOULBURY HEADTEACHER GROUP 8 SCALE**  
£16,785 - £18,273 p.a.

The Authority is expanding its Advisory Service by the appointment of 4 additional Advisers. All Advisers have a general responsibility for a group of schools and, in addition, are required to offer specialist advice in one or more fields.

It is hoped to strengthen the existing team by adding specialist expertise in some or all of the following areas:

- Art
- Drama
- History
- Home Economics
- Information Technology
- Micro-Electronics
- Music
- Religious Education

Applications are invited from well-qualified persons with appropriate teaching experience at a senior level. Experience in primary school will be an added advantage.

Further details and application form, returnable by 3rd July 1987, from the Director of Education, Education Department, Town Hall, Oril Road, Bootle, L20 7AE. Please send a stamped addressed envelope.

An Equal Opportunity Employer

Carveaway will disqualify

108081

**SEFTON COUNCIL**

## ADMINISTRATION - LEA

continued

### MERTON

**LONDON BOROUGH OF MERTON**  
EDUCATION COMMITTEE  
EDUCATION OFFICER FOR  
SCHOOLS AND COLLEGES

A post is available from September 1987 for a suitable candidate to be seconded to the post for a 2 year period. The post involves two main responsibilities:

1. SCIP Co-ordinator for the Authority
2. TVET Schools Industry Liaison

The person appointed will be responsible for initiating and developing activities in schools, working alongside teachers, supporting and encouraging curriculum development.

The successful candidate will be expected to work closely with the TVET Schools and will work in all phases of education including primary, middle, secondary, special schools and further education.

Applications are invited from suitably qualified and experienced teachers. Candidates should be aged 35 or under.

Application forms and further details are available from the Project Co-ordinator, Merton TVET Centre, Morden College, Morden Hill, Morden, Surrey, Tel: 01-543 3777.

Merton is an Equal Opportunity Employer.

All applications will be considered on their merits.

1380811

### WALSALL

**METROPOLITAN BOROUGH OF WALSALL**  
EDUCATION COMMITTEE  
EDUCATION OFFICER  
EDUCATION OFFICER

Applications are invited for the post of Education Officer. The post involves the development of the Authority's education provision within the Borough.

The post is primarily concerned with the development of the Authority's education provision within the Borough.

Further details and application form, returnable by 3rd July 1987, from the Director of Education, Education Department, Town Hall, Oril Road, Bootle, L20 7AE. Please send a stamped addressed envelope.

Application forms and further details are available from the Project Co-ordinator, Merton TVET Centre, Morden College, Morden Hill, Morden, Surrey, Tel: 01-543 3777.

Merton is an Equal Opportunity Employer.

All applications will be considered on their merits.

143944

### LINCOLNSHIRE

**TRAINING CAREERS OFFICER**  
Lincoln

£12,518 - £28,880

Applications are invited for the above post which involves the development of the Authority's education provision within the Borough.

Further details and application form, returnable by 3rd July 1987, from the Director of Education, Education Department, Town Hall, Oril Road, Bootle, L20 7AE. Please send a stamped addressed envelope.

Application forms and further details are available from the Project Co-ordinator, Merton TVET Centre, Morden College, Morden Hill, Morden, Surrey, Tel: 01-543 3777.

Merton is an Equal Opportunity Employer.

All applications will be considered on their merits.

143944

### ADMINISTRATION - LEA

continued

Applications are invited for the above post which involves the development of the Authority's education provision within the Borough.

Further details and application form, returnable by 3rd July 1987, from the Director of Education, Education Department, Town Hall, Oril Road, Bootle, L20 7AE. Please send a stamped addressed envelope.

Application forms and further details are available from the Project Co-ordinator, Merton TVET Centre, Morden College, Morden Hill, Morden, Surrey, Tel: 01-543 3777.

143944

### WILTSHIRE

**COUNTY COUNCIL**

**EDUCATION DEPARTMENT**

**STAFF DEVELOPMENT OFFICER**

New post available from 1 September 1987 or as soon as possible thereafter.

The post involves the development of the Authority's education provision within the Borough.

Further details and application form, returnable by 3rd July 1987, from the Director of Education, Education Department, Town Hall, Oril Road, Bootle, L20 7AE. Please send a stamped addressed envelope.

Application forms and further details are available from the Project Co-ordinator, Merton TVET Centre, Morden College, Morden Hill, Morden, Surrey, Tel: 01-543 3777.

Merton is an Equal Opportunity Employer.

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Merton is an Equal Opportunity Employer.

### COUNTY EDUCATION DEPARTMENT

**CAREERS SERVICE**

**CAREERS OFFICER (POOLE)**

(Based at the Area Careers Office, 3, Park Road, Poole)

**POST NUMBER C01 86X**

Applications are invited from professionally qualified, experienced Careers Officers to fill a post as a Careers Officer in the Poole Office.

The post involves the development of the Authority's education provision within the Borough.

Further details and application form, returnable by 3rd July 1987, from the Director of Education, Education Department, Town Hall, Oril Road, Bootle, L20 7AE. Please send a stamped addressed envelope.

Application forms and further details are available from the Project Co-ordinator, Merton TVET Centre, Morden College, Morden Hill, Morden, Surrey, Tel: 01-543 3777.

Merton is an Equal Opportunity Employer.

All applications will be considered on their merits.

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Merton is an Equal Opportunity Employer.

All applications will be considered on their merits.

# ADMINISTRATION L.E.A. (continued)

### Education Department

**Chief Inspector/Adviser**

**Soulbury HT Group XII (under review)**

**NJC Conditions of Service**

**Starting date: 1.9.1987**

This is a key post within the top management structure of the Department involving specific responsibility for service delivery, quality assurance and institutional performance in all schools and colleges. The post also involves Chairmanship, co-ordination and deployment of the Authority's Advisory Team and overall responsibility for the general direction of in-service education and professional management development.

The successful candidate will be expected to play a leading role in the outworking of the Authority's 14-19 policies including proposals for secondary/tertiary reorganisation and the extension of TVET; experience of senior management in the secondary sector will therefore be a distinct advantage for this post.

### Re-advertisement

**Senior Education Officer**

**Development and Resources**

**£19,836 - £21,816**

**NJC Conditions of Service**

This is a newly established post involving responsibility for:

- corporate relationships within the County Council
- structural forward planning, development and implementation
- determining long-term financial strategies
- general oversight of Departmental administration.

You will be a full member of the Education Management Team and will contribute to establishing long-term educational strategies.

The requirements of the post are a degree and/or relevant professional qualifications and substantial experience at a senior level in the management and administration of education services.

Previous applicants will automatically be re-considered.

Application forms and job descriptions for the above posts are available from the County Personnel Officer, Shire Hall, Maid, (Tel: Maid (0352) 2121 Ext. 2435) to be returned by 3rd July, 1987.

**J.A. DAVIES**

County Personnel Officer

(40841)

**ELWYD COUNTY COUNCIL**

### EDUCATION DEPARTMENT

**SENIOR CAREERS OFFICER**

**£11,307-£12,009 Inc. p.a. (pay award pending)**

Required: a qualified, experienced Careers Officer. This post is one of three in the management team of the service. The post involves responsibility for the day to day management of the Advice and Guidance Branch of the service which is based in Richmond's Tertiary College.

The main duties will be to lead and co-ordinate a team of Careers Officers working in the school and college, maintaining professional standards, recommending and implementing developments in policy and practice of the Branch, and to have a personal caseload of pupils and students.

For further information contact Hugo Briggs (01-892 0192). Form and job description from Non-teaching Personnel Section, Regal House, London Road, Twickenham TW1 3QB (01-891 7518), returnable by 3rd July 1987. (14887)

**LONDON BOROUGH OF RICHMOND UPON THAMES**

**an equal opportunity employer**

**Suffolk County Council**

**EDUCATION DEPARTMENT**

**SENIOR CAREERS OFFICER (SPECIAL NEEDS)**

**POST NO. E399**

**SALARY: SCALE 6 £9513 - £10,164 PER ANNUM (Pay award pending)**

Applications are invited from qualified and experienced Careers Officers for the above post based at Lowestoft Tertiary College. The postholder will be responsible to the Area Careers Officer for providing a "guidance and placing" service to young people with special needs in the Northern Area.

The above post carries an essential car user allowance and a full driving licence and ownership of a car are necessary. Schemes of assisted car purchase and relocation expenses are available.

Application forms and further details from the Area Education Officer, Suffolk House, London Road North, Lowestoft NR32 1BH (a.s. please).

Informal enquiries may be addressed to Ivor Buckingham, Area Careers Officer on (0502) 82282.

Closing date: 6th July 1987. (40854)

### EDUCATION DEPARTMENT

**Professional Assistant**

**Salary: £12,342 - £13,035 Inclusive (Pay Award Pending)**

Applications are invited from candidates with a degree and teaching experience for this post which provides an ideal starting point for a career in educational administration. The duties will be varied, interesting and demanding.

Initially, the successful candidate will be attached to a specific branch of the service, but there will be opportunities to gain experience of several aspects of educational administration.

Further details and application forms available from Chief Education Officer, Town Hall, Barking, Essex EG11 7LU (Please enclose photocopy SAE).

Telephone 01-692 4600 Ext. 3402. Closing date: 3rd July 1987. (40852)

**Barking & Dagenham**

**an equal opportunity employer**

**EDUCATION DEPARTMENT**

**POST 16 DIVISION**

**COMMUNITY EDUCATION SERVICE**

Applications are invited from suitably qualified and experienced persons for the post of Community Officer based at Orwell High School, Felixstowe, to work as a member of the Area Team responsible for Community Education in the Ipswich and Felixstowe district of the County.

This post demands a high degree of commitment and flexibility and offers an exciting career challenge.

The appointment will be subject to the NJC Conditions of Service: the salary will be either JNC Range 4, points 1-5 (£10,920 - £12,270) or Burnham (P & S), Scale 3 (currently £9,954 - £13,464).

Please send SAE for an application form and further details to: County Education Officer, Education Department, Post 16 Division (Ref MK), St Andrew House, Grimwade Street, Ipswich IP4 1LJ.

Completed application forms to be returned by 3 July 1987. (40860)

**Suffolk County Council**

**an equal opportunity employer**

**EDUCATION DEPARTMENT**

**POST 16 DIVISION**

**COMMUNITY EDUCATION SERVICE**

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Please send SAE for an application form and further details to: County Education Officer, Education Department, Post 16 Division (Ref MK), St Andrew House, Grimwade Street, Ipswich IP4 1LJ.

Completed application forms to be returned by 3 July 1987. (40860)

**Suffolk County Council**

**an equal opportunity employer**

**EDUCATION DEPARTMENT**

**POST 16 DIVISION**

**COMMUNITY EDUCATION SERVICE**

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Please send SAE for an application form and further details to: County Education Officer,



# NATIONAL FOUNDATION FOR EDUCATIONAL RESEARCH IN ENGLAND AND WALES



## Field Research Services RESEARCH ADMINISTRATIVE OFFICER

Post No. OFR04  
Salary up to £13,080

The NFER is the country's major educational research institution. Its staff work in a friendly and informal atmosphere and its offices are surrounded by pleasant grounds on the outskirts of Slough.

Applications are invited for the post of Research Administrative Officer in the NFER's Field Research Services which provides the administrative services required for the Foundation's test development programmes, large scale types of research and data collection.

The successful applicants will be concerned with the collection of data for the Technical and Vocational Education Initiative (TVEI) Student/Teacher Database held at the NFER. In addition s/he will join a team concerned with enrolling the co-operation of schools, colleges and individuals in the administration of NFER test development programmes and large scale survey research.

Candidates should have a good Honours Degree, research and/or administrative experience and be able to write fluently and clearly. Knowledge of the educational system (particularly of TVEI) and experience in survey administration would be advantages.

## Parental Involvement in Children's Schooling RESEARCH OFFICER

Post No. PI04

Applications are invited for the post of Research Officer on the Parental Involvement in Children's Schooling Project. The person appointed will work as a team with a Senior Research Officer and another Research Officer to investigate the variety of initiatives that have been established to increase the involvement of parents in their children's education. The research is being conducted through questionnaires in Phase 1 and case studies in Phase 2. Phase 1 of the research is now complete and Phase 2 will involve a detailed evaluation of a selection of representative schemes.

Applicants should have a good honours degree in a relevant subject, sound knowledge of research methods in the social sciences and the ability to write for publication. Experience in carrying out and writing up case study research and interviewing teachers, parents and pupils would be valuable.

The post is available as soon as possible and will run until 31st May 1989.

The Salary Scale is from £10,440 - £13,080 and placement will be according to qualifications and experience. Interviews will be held on Wednesday 22nd July for this vacancy only.

For application form and further particulars, please apply to the Personnel Office, National Foundation for Educational Research in England and Wales, The Merc, Upton Park, Slough, Bucks SL1 2DD. Tel: Slough (0753) 74123. Closing date for return of completed application forms, no later than Friday 3rd July 1987. (40647)

## Administration General

### ADMINISTRATORS AND TEACHERS

Qualified and experienced personnel required for a U.C. managed school. Please apply to: Oxford House College, 5 Oxford Street, London W1R 3RE. Tel: 01-734 5880. (40647) 500000

### Miscellaneous

**ALTERNATIVES FOR TEACHERS.** Use professional skills in new employment. Careers in Writing and Publishing. Careers in TV. Careers in Radio. £2.25 each. £2.95 all other. 1000. Hamilton House Publishing, Brixworth, Northampton. Area phone 0604 881889. (04153) 660000

**PRACTISE YOUR LANGUAGE PAYING GUEST STAYS** offered in U.K., France, Germany, Spain and Italy. Also Fern/Ten. All paid places in Europe. **GREATEST CARE TAKEN WITH CHOICE OF FAMILIES.** Complete care. ROLLER HOST & GUEST SERVICE. 5925 Kings Road, London SW6 2DX. Tel: 73 2340. 137021 660000

**NORWICH MULTICULTURAL ADVISER** required to assist with a multi-cultural Theatre in Education programme for Norfolk. Middle/secondary school. Salary: £1,000 (no. hours to be agreed). Please send letter of application plus CV, SAE and names of two referees to: Mr. MCA, David Farmer, Director, The Break, St William's Primary School, St William's Way, Norwich NR7 0AJ. Equal Opportunity Employer. For further details phone (0603) 39963. 1244681 660000

## The National Institute of Adult Continuing Education (England and Wales)

### DIRECTOR

NIACE requires a successor to Arthur Stock who retires on 30 April 1988.

The Institute seeks a person with substantial management experience and extensive knowledge of adult continuing education, a co-operative approach to leadership and a high level of communication skills.

Salary: NJC Chief Officer 17, currently £26554 - £29261

Further particulars from NIACE, Dept. H, 19b De Montfort Street, Leicester LE1 7QE

Closing date: 13 July 1987

NIACE is an equal opportunity employer.

## INFLUENCE DESIGN EDUCATION Up to £21,000 (under review)

As part of its brief to promote improved standards of design in British industry, the Design Council is increasingly directing its attention to the education and training of designers.

We now need someone with a good knowledge of the design education system and with managerial ability to lead the team responsible for implementing our policies in this field.

The starting salary will depend on experience and qualifications. In addition we offer an excellent non-contributory pension scheme and other benefits.

For further details and on application form please contact Miss Prue Beard, Personnel Manager

The Design Council

28 Haymarket

London SW1Y 4SU

Telephone 01-839 8001 ext 4039

An equal opportunities employer

## Leicestershire

DEPARTMENT OF PLANNING AND TRANSPORTATION

## ROAD SAFETY OFFICER

Salary Range Scale 4 £7,311 to £8,172 p.a. (pay award pending)

The tasks are to encourage teachers to implement a structured progressive programme of Road Safety Training in Primary and Secondary schools in an assigned area of the County, including participation in the development and preparation of teaching aids for use by teachers; to organise and provide structured cycle training; to direct and supervise part-time tutors; to contribute to the overall development of the work and success of County Road Safety teams.

Applicants should be qualified and experienced teachers.

A current full driving licence is essential. Car user allowance or car leasing facilities available. A home telephone allowance is payable.

Relocation expenses up to £2,480, plus lodging allowance may be payable in appropriate circumstances. Temporary housing could be available.

Application forms and further information obtainable by telephoning Leicester (0533) 316613, or by writing to the Director of Planning and Transportation, County Hall, Glenfield, Leicester LE3 8RJ. Closing date: Wednesday 8th July 1987.

**EQUAL OPPORTUNITIES POLICY.** Applications are welcome from people regardless of their race, ethnic origin, religion, sex, marital status or disability. Disabled applicants will be considered on an individual basis and suitable employment opportunities will be provided by a recognised agency e.g. a R.O.D.

# DESIGN OF LEARNING SYSTEMS

An experienced and suitably qualified person is sought to lead a small team which is the focus of expertise within the EITB on the design of learning systems, learning theory and training techniques.

The successful candidate for this post will hold a degree in psychology or other relevant discipline and will have considerable experience working in the fields of learning systems design of curriculum development. Experience gained in the field of engineering or technical education and training will be a distinct advantage.

The role requires keeping abreast of recent developments in the fields of learning design, learning theory and training techniques and disseminating that knowledge to staff throughout the EITB, by a wide variety of means of communication including written, informal spoken and formal seminars and courses to ensure that those involved in development of training programmes adopt suitable learner centred approaches.

The team also has a responsibility in the areas of methods of recruitment and selection and of assessment of skills and an awareness of these areas is also desirable.

The post is located at the EITB's Headquarters in Watford, but will require considerable travel in visiting other parts of the country.

The post is at Principal level and carries a good salary and conditions, including a car.

Please send full details of telephone for an application form:

Personnel Department,  
Engineering Industry Training Board,  
41 Clarendon Road,  
Watford,  
Herts WD1 1HS  
Telephone: (0923) 38441 ext 443

EITB  
Engineering Industry Training Board

## MISCELLANEOUS VACANCIES continued

## Engineering or Science graduates. £11,104+ IN YOUR FIRST YEAR.

Your degree in Engineering or in some Science subjects is worth more in the RAF than virtually anywhere else. Within your first year as an RAF Officer, you'll be earning at least £11,104\* and your salary can increase faster in the RAF than in civilian life. All posts are open to both men and women.

### Engineer Officers.

Engineer Officers have to their care some of the most advanced aircraft and sophisticated communications equipment in the world. It's the Engineer Officer's job to lead, and to manage the teams of highly skilled technicians, maintaining and developing this equipment.

### Education and Training Officers.

To keep our men and women up-to-date with the rapidly advancing technology, we need graduate Education and Training Officers to teach science and technology. If you have not been taught how to communicate your skills, we'll teach you.

### What now?

Either as an Engineer Officer or an Education and Training Officer, you'll be involved in a far wider range of activities and with more responsibility than you'd find in civilian life.

Because it will be your job to keep ahead of the people you are managing or teaching,

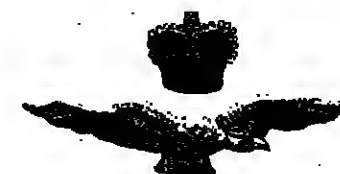
The Armed Forces are Equal Opportunity Employers under the terms of The Sex Discrimination Act 1975.

we will encourage your own post-graduate studies. Your tour of duty may also take you to many different RAF stations in the UK and as far away as Belize and the Falkland Islands.

To apply as an Engineer Officer, you must have a degree in an engineering subject. (A degree in Mathematics, Physics, or Computer Science may also be acceptable.) A degree in any of these subjects qualifies you to apply as an Education and Training Officer.

For more information write to Group Captain Paul Terrett, OBE, at (EV) Officer Careers, (602/16/06), Stannore HA7 4PZ, or call in at any RAF Careers Information Office. If you are applying in writing, please include your date of birth and qualifications. \*1987/88 pay scales.

## Graduate



## RAF Officer

## Primary Editor PUBLISHING DIVISION

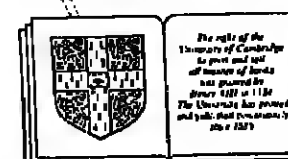
The Schoolbooks Group of Cambridge University Press is expanding its educational publishing at primary and infant level.

We now require an editor to take responsibility for developing this area across the board. The successful candidate will be part of a team reporting directly to the Educational Director.

If you have primary publishing experience or several years primary teaching experience and an interest in publishing, energy, initiative, ideas and a capacity for hard work, please write and tell us how you would contribute to this expansion.

Starting salary for this post will be between £11,062 and £9,841, the point of entry dependent on relevant experience. The pension scheme and other terms and conditions of employment are excellent, and relocation expenses will be paid where appropriate.

Please write in detail to:  
Mrs Christine Lawless, Personnel Manager



Cambridge University Press

The Edinburgh Building,  
Shaftesbury Road, Cambridge  
CB2 2RU, England

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THE TIMES EDUCATIONAL SUPPLEMENT  
requires an

## ADVERTISEMENT SALES EXECUTIVE

Ideally, you will be in the age range of 25 to 35 and possess a high standard of education.

While previous sales experience is not necessary you must have excellent persuasive communicative skills and be an enthusiastic self-motivator. The position is both challenging and rewarding as it entails discussing advertising and marketing plans with senior personnel in companies throughout England and Wales.

We offer a good salary, 6 weeks holiday, free BUPA membership and a pension scheme. A company car is also provided.

Please write, at the earliest opportunity, to Mr. John Ladbrook, Advertisement Manager, stating current salary and enclosing C.V.

The Times Educational Supplement,  
Priory House, St. John's Lane, London EC1M 4BX

Department of Education and Science:

## HM Inspectors

Applications are invited from men and women, preferably aged between 35 and 45, for appointment in England as HM Inspectors. HMI inspect educational institutions as part of both general and specialist assignments and provide advice to the Department and throughout the education system.

Current vacancies are for specialists in:

### SPECIAL EDUCATIONAL NEEDS IN FURTHER EDUCATION

Applicants should have had varied teaching experience of a range of students with special educational needs together with some responsibility for co-ordinating college resources for meeting such needs.

Starting salary for the posts is within the range of £18,020 - £24,302 (under review). Relocation expenses of up to £5,000 may be payable.

Application forms (to be returned as soon as possible and not later than 30 June 1987) and further information may be obtained from Mrs S. Wallis, Department of Education and Science, 29 York Road, London SE1 7YU. Telephone: 01-934 0795, 0799 0800.

The Civil Service

## A Rewarding Career in Pharmaceuticals

Add your skills as a Teacher, your personality and our training to produce an intellectually stimulating career and new earning power!

**SKILLS + PERSONALITY + TRAINING = REWARDS**

- Communication
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- Presentation
- Problem-solving

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- Intelligent
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- Interest in people

- Selling skills
- Product knowledge
- Interactive Video
- Computer skills
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- Earnings to £12,000 plus bonus
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- Challenging environment
- Career Progression

Teaching and selling have a lot more in common than you might believe. Our Medical Representatives use many of the same skills in selling our products to the Medical profession as you do in educating your pupils — the difference lies in the rewards you will earn for your hard work.

If you have never thought about Medical Representation as a career, do it now. If you need more information about Searle and the careers we offer, find out about us in GET, GO, and the Sales and Marketing Casebook produced for graduates.

Direct training course, which lasts for up to 8 weeks, is scheduled to begin in September and vacancies are available throughout the U.K. We offer a structured training and development programme for the first two years with us which will equip you for pharmacology in the field sales management or marketing opportunities.

Please write to me for an application form and brochure.

D. J. Horton, Personnel Manager, Sales and Marketing,  
G.D. Searle & Co. Ltd.,  
Lane End Road,  
High Wycombe, Buckinghamshire HP12 4HL  
Tel: High Wycombe (0494) 21124

**SEARLE**  
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